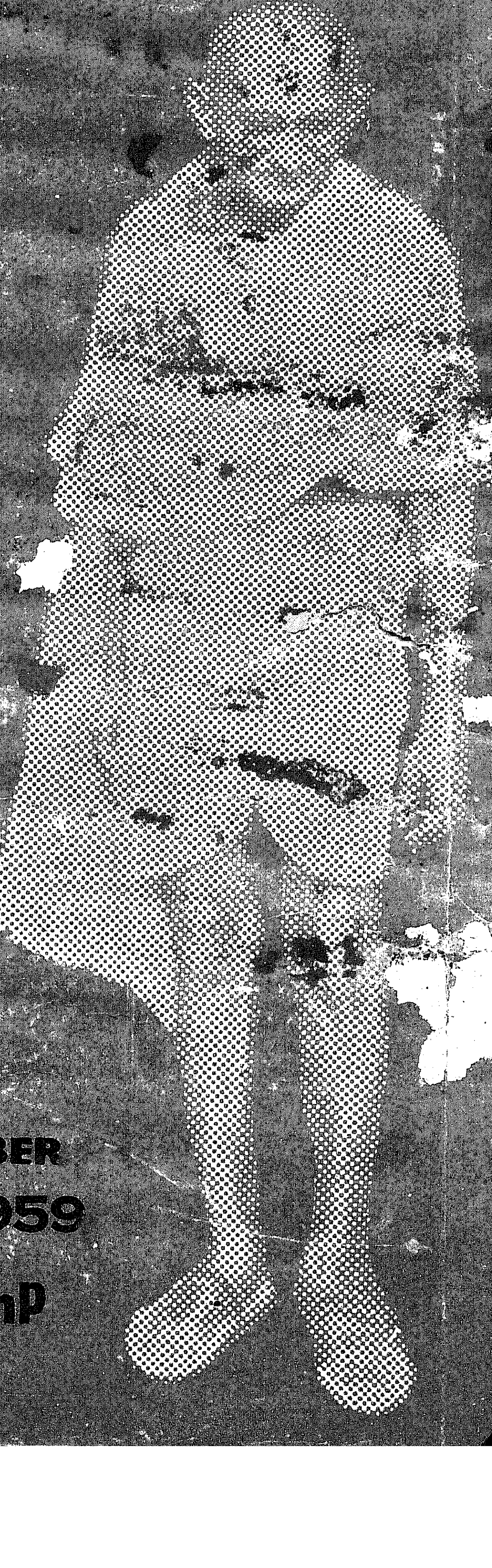
MADRAS information



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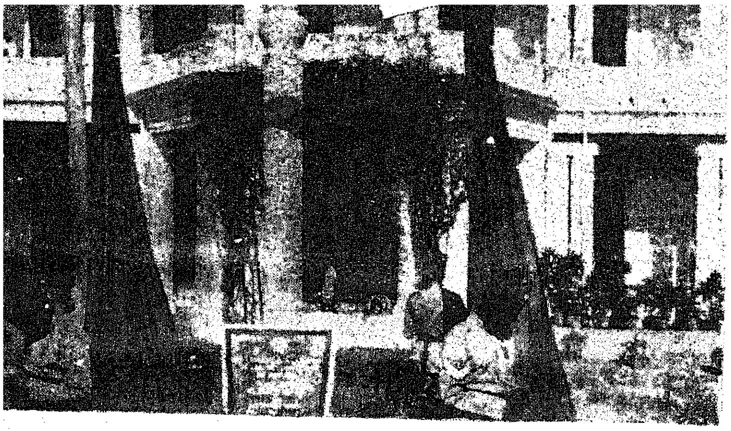
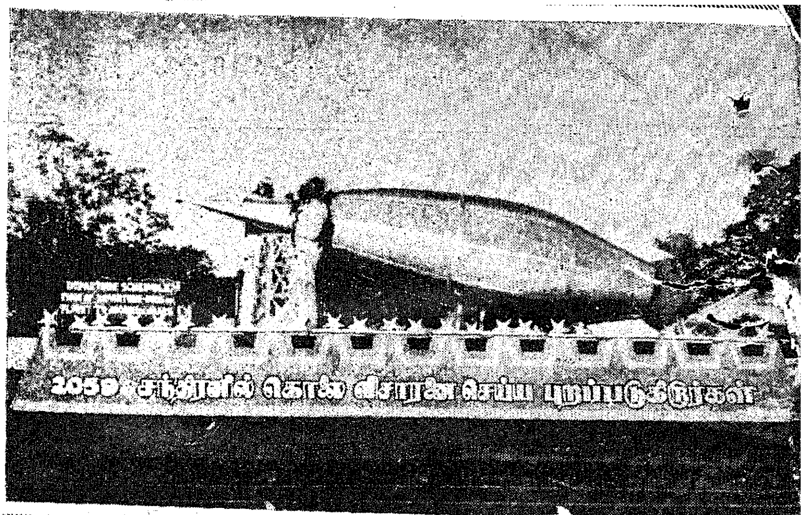
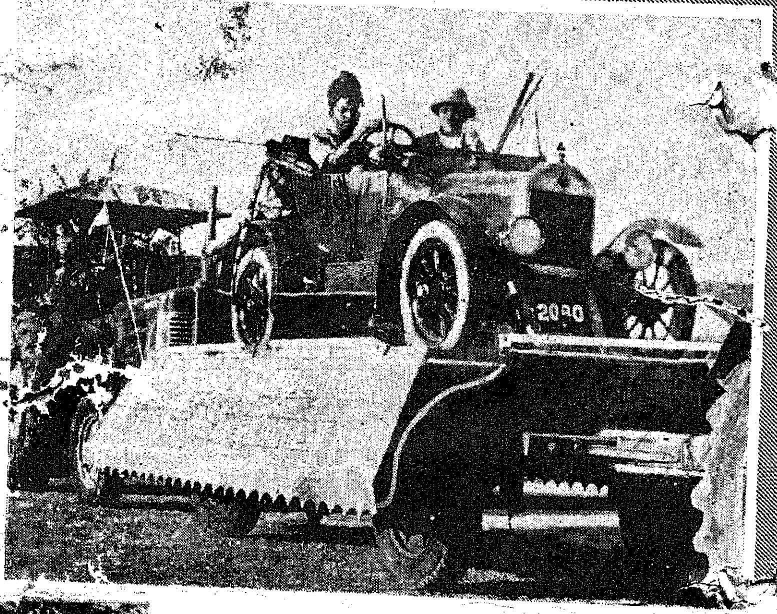


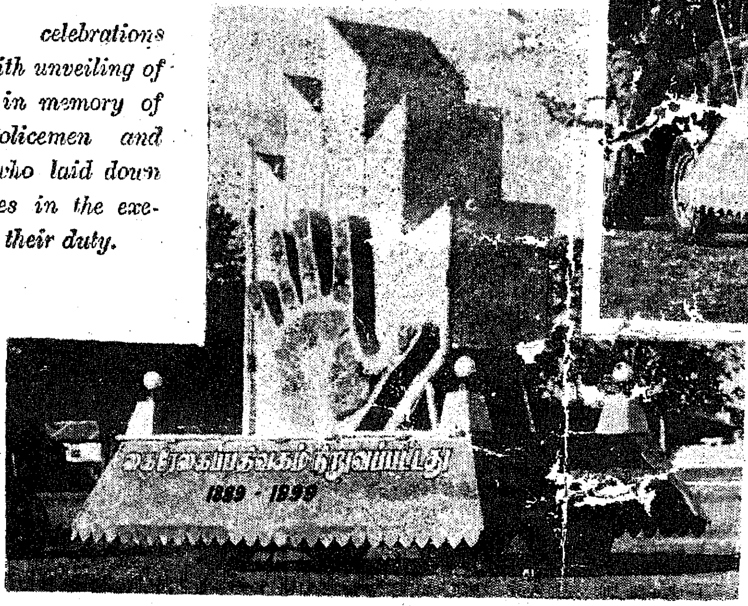


POLICE CENTENARY CELEBRATIONS

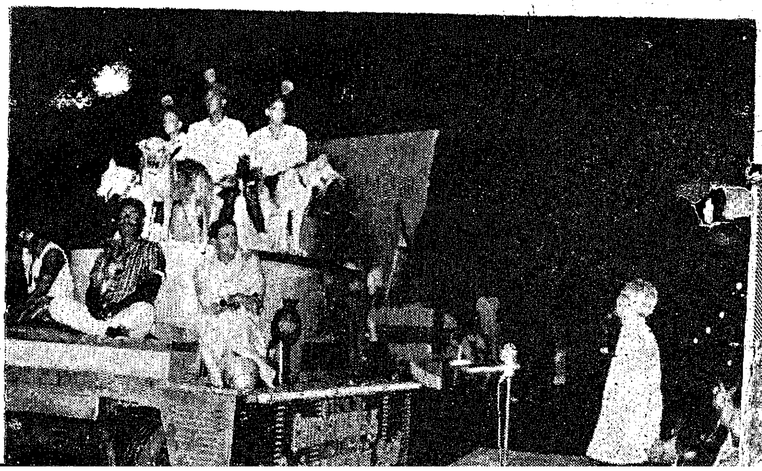
The Centenary of Madras Police was celebrated in the City with great enthusiasm.



The celebrations began with unveiling of a plaque in memory of the Policemen and officers who laid down their lives in the execution of their duty.



A pageant was held during which floats describing various aspects of Police activities, were taken round the main roads of the City.



"We seek to Serve and Not to Compete"

Published every month by the Director of Information and Publicity, Fort St. George, Madras-9.

Annual Subscription
Rs. 2·25.

Advertisement rates on request.

Cover Design by S. S. Kalathil.

This month's cover:

Gandhiji prepared the blue-print for the Community Development Programme we are having now. Fifty years ago, he evolved this Community Development Programme, which he called then, the Rural Reconstruction Programme. Whoever is engaged in this mighty Nation-building task draws inspiration from the most dedicated rural development worker of all—Gandhiji. Let us be worthy of him. If only we all display a fraction of the dedication and enthusiasm which he showed towards the establishment of the new Nation, we would have done our duty by the Father of the Nation.

MADRAS information

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[The articles published in *Madras Information* may be freely reproduced.]

BHOODAN YAGNA

SRI K. ARUNACHALAM.

"Bhoodan Yagna" popularly known as Bhoodan Movement originated on the 18th April at Poochampalli in Telingana when Shri Vinobaji got an offering of one hundred acres of land from Shri Ramachandra Reddy to be shared by the landless agriculturists of this village. This unique event took possession of the head and heart of Vinobaji. He spent sleepless nights over this event. Like a true scientist with a passion for facts, he pursued this idea further and further till he discovered the potentiality and technique of the law of love. He saw that anyone who has compassion in his heart and translates that spirit in his own life by sharing what he has with his neighbours, will be able to persuade others also to be compassionate and alleviate the sufferings of many. He issued an appeal for both workers and land. Thousands of acres were offered in Bhoodan Yagna in response to the appeal not only in the Communist-infested Telingana area but also in other parts of India.

India has one crore of landless agriculturist families. Will we able to collect enough to provide them all with land? This was the real doubt even in the minds of those who believed in the non-violent way. But, Vinobaji had no doubts on this matter. When this question was raised he was in Bihar. He decided to concentrate on Bihar as a test case. More than a year of trekking followed. The Sarva Seva Sangh put its heart and soul into the Movement. Leaders like Shri Jayaprakash Narain came forward to dedicate their whole life for the furtherance of this cause of Non-Violence. The people of Bihar proved the principle of Bhoodan Yagna by donating nearly 23 lakhs of acres which is one-sixth of the cultivable land in Bihar.

A scientist formulates laws. He applies them to life only to the extent that it is necessary for him to prove his theories. Shri Vinobaji has proved the truth of this law, without any shadow of doubt. Now it is for the rest of us to work out its full implication in other parts of India. Workers will have to be trained and equipped to undertake this task of spreading the message of Bhoodan. They will go from house to house and apply this law and effect the Social change which is the crying need of the day.

In the pursuit of Bhoodan Yagna Shri Vinobaji was faced with the problem of proper redistribution of lands. He discovered "Gramdan". He claims that this is the only proper solution to many of the present-day social and economic ills. Gramdan expects the community to take full responsibility for giving security to all the members of the community. The village will have to provide work or employment for every one. If this is not done the other alternative is the development of authoritarian attitudes and totalitarianism in the country. If people look up to distant places and tend to rely on others for providing themselves with the necessities of life they lose their liberty. So, Vinobaji's Gramdan opens to the village communities a way for retaining their independence and initiative in their own hands. Nearly 5,000 villages have decided to accept the Gramdan idea. This means that individual or family ownership in these villages is transferred to community or village ownership.

No new idea is ever accepted without a fight. The Gramdan is no exception. It is resisted by tradition bound no-changers. They see danger in this idea. They think that family life will be in peril and culture will be lost. According to them private property is an essential condition of life and progress. This might be true of mediæval times. But we are in the twentieth century. We have to face the effects of science and technology. To-day the world is on the verge of total destruction because of the misapplication of scientific inventions. The inventions and their application are wedded to narrow selfishness and rank material values. Shri Vinobaji, the seer and the scientist, sees the need for linking science with spiritual values. He is of the opinion that when love works hand in hand with science then there will be peace on earth.

Private property and ownership in to-day's complex social set up is only a myth. The Ford Company is not one man's or family's concern. It is a co-operative endeavour. This is true of almost all big and small companies. In spite of the overt competitive spirit in the industrial field, there is an undercurrent of mutual aid and co-operation. This is essential for their very survival. To the extent there is co-operation, there is growth and progress. Gramdan attempts to base the social structure on this idea of mutual aid. A person who owned only ten acres of land in a village before Gramdan will become the owner of all the land in the village. Every one will speak of "our land" and not "my land". This gives greater security than private ownership. It is possible under the principle of private ownership for an inheritor to lose his land. He will be stranded without any help. But, in Gramdan, where land cannot be mortgaged or sold away, he and his progenies are assured of a basic minimum as long as they are prepared to work.

This kind of coming together and pooling of the resources for the common good is a historical necessity in the evolution of the human race. The intellect is far too much developed and as a result man has learnt to release the mighty force that is locked up in the atom. At this critical juncture he must develop his heart so as to comprehend all humanity as one. Otherwise there is the danger of total annihilation of all life on this planet.

Consequent on the discovery of Bhoodan and Gramdan, Vinobaji has also enunciated the principles of

(*Continued on page* 30)

RELIEF FOR THE UNDER EMPLOYED

SRI R. PARTHASARATHI,
Director of Khadi, Madras.

The Charkha is the one simple imp'ement which, in the prevailing context of the peasants' poverty, illiteracy and lack of technical skill, could help him add a sizable amount to his income. It would also help him and his family to provide for their own clothing needs. Mahatma Gandhi with profound insight into the real conditions and needs of rural India revived the Charkha and made it the pivot of his constructive programme.

The Government of Madras was the foremost and pioneer State to take to the Khadi programme as a rural development programme. after ten years of successful experience, this Government has been the first to set up a separate Department to develop Khadi as an essential rural industry.

The object of the Government in including Khadi work in its rural development programme is two-fold. The first is to provide remunerative employment to the unemployed and underemployed people in the rural areas. The second is to intensify Khadi development in selected areas with a view to make them self-sufficient in regard to their clothing needs. With these ends in view, the Government are implementing the programme under a four-fold scheme.

The twin objects of self-sufficiency and remunerative employment to the peasants are sought to be achieved through the Intensive Khadi Scheme. The Scheme is implemented in areas where there is a big concentration of spinners and where enough weavers are available to weave the yarn into cloth. Under this scheme, facilities are provided to spinners to produce yarn and arrangements are made to purchase the yarn and convert it into cloth. While purchasing yarn from spinners, a part of the money due to them is held in deposit and Khadi cloth to the value of the accumulated deposit is given to them.

And the Khadi produced in these centres is of high quality and in infinite varieties. Two dyeing, bleaching and printing Units, one at Tiruppur and another at Erode, help production of coloured and printed varieties and also mercerised Khadi. A silk production centre at Kumbakonam with three sub-centres at Kancheepuram, Arani and Hosur produce silk varieties with hand-reeled silk yarn. These centres produce sarees in traditional as well as modern designs.

In areas where Intensive Khadi Scheme is in operation, 65,657 spinners and 3,715 weavers were enlisted during the first three of the Second Plan. The total number of spinners and weavers on roll under this scheme is respectively 118,808 and 4,077. The wages paid to spinners and weavers in 1958–59 alone amounted to Rs. 27,94,282 and Rs. 16,33,457. In 1958–59, 2,870,901 yards of Khadi and 22,964 yards of Khadi silk were produced. Twenty-six Khadi Sales Depots—their number has now gone up to 31—have been opened, six in the City of Madras and 25 in different district towns in the State. The quantity of Khadi sold during the year was 2,443,805 yards. A Regional Khadi Vidyalaya to train workers to implement the Khadi Schemes has been functioning in Tiruppur.

It is the aim of the Government to extend the frontiers of the Intensive Khadi Scheme areas with a view to include ultimately the entire State. With this end in view, the Extensive Khadi Scheme is implemented in areas where Khadi has not taken roots. Under this Scheme, Charkhas are distributed at subsidized rates, cotton as well as implements for carding, slivering, etc., are supplied at cost price and the yarn produced by the spinners is purchased for ultimate conversion into Khadi in the Intensive Scheme Centres. During the first three years of the Plan, 116 spinning Centres have been opened. The number of Charkhas distributed in these Centres is 14,987 and the number of spinners on roll as on 31st March 1959 is 16,728. The wages paid to these spinners in 1958–59 amounted to Rs. 1,06,414. It should be pointed out that in areas where Extensive Khadi Scheme and Comprehensive Khadi Scheme are in operation spinners are

This is a typical scene in centres where Khadi Development Schemes are being implemented. Women wait while the hanks of yarn they had spun are tested for purchase.

Young and Old are engaged in spinning with great enthusiasm.

not at their Charkha whole time. They are, most of them, casual spinners, spinning sometimes one or two hours a day or one or two days a week. So, it would not be correct to calculate their earnings by dividing the wages paid by the number of spinners on roll.

Foremost, again, among State Governments, the Madras Government have given the Charkha and spinning primary importance in their Community Development Programme, under what is called the Comprehensive Khadi Scheme. This scheme is similar to the Extensive Khadi Scheme in most respects. The scheme is being implemented in all the Blocks. The number of Charkhas distributed as on 31st March 1959 is 70,597 and the number of spinners on roll is as many. Rupees 2,12,975 have been paid as wages to spinners and 1,498,590 hanks were purchased from them during 1958–59.

The Ambar Charkha Programme, which took shape three years ago, holds out great promise in respect of increased output and consequently increased earnings by improved methods. A trained Ambar spinner can earn anything between Rs. 1,50 to Rs. 2 per day. Special emphasis is laid on this new programme and attention is paid largely to bring the entire State under this programme. The Ambar Charkha Programme provides for the establishment of Ambar Vidyalayas to train instructors and Parishramalayas to train spinners; for the distribution of Ambar Charkhas and cotton at cost price to trained spinners and for the purchase of Ambar yarn from the spinners and its conversion into cloth in Ambar production centres.

Two Ambar Vidyalayas are being run at present at Kangayam and Manimuthar with Sub-Vidyalayas at Palladam and Dharapuram. Thirty-nine Parishramalayas have so far been opened for training spinners on Ambar Charkha. It is proposed to open 20 Parishramalayas in 1959–60.

Eight main Ambar Production Centres and 26 Sub-Centres have so far been opened to distribute Ambar Charkhas and cotton to trained spinners, to purchase Ambar Yarn from spinners and get the yarn woven into Khadi. Besides these, four model weaving centres have been opened to train weavers in weaving Ambar Yarn and nine servicing Units for servicing Ambar Charkhas issued to spinners. So far 8,006 spinners have been trained by the different Parishramalayas and Charkhas have been distributed to 7,176 of them.

During 1958–59 a sum of Rs. 3,85,741 has been paid as wages to spinners and 2,604,389 hanks have been purchased. Two hundred and ninety-five weavers are at work weaving Ambar yarn into Khadi and they have produced 166,321 yards of Khadi. A sum of Rs. 75,723 has been paid to them as wages in 1958–59.

That the relief provided by the Charkha to the unemployed and underemployed peasants of the State is on a mass scale will be borne out by facts. The total number of spinners on roll under all the schemes including the Ambar Charkha Programme as on 31st March 1959 is 213,309. Total wages paid to them during the year came to Rs. 34,99,413. The number of weavers engaged in Khadi weaving is 4,372 and they have been paid Rs. 17,09,180 as wages. This is as regards Khadi work carried on under Government auspices.

Besides the Government, there are other agencies engaged in the propagation of Khadi in the State. The Tamil Nad Sarvodaya Sangh, successor of the Akhil Bharat Sarvodaya Sangh which was itself a successor of the old All-India Spinners' Association started by Gandhiji is the oldest institution in the field; its work is as large, if not larger than the Government's work in this field. The Gandhi Ashram, Tiruchengode, operates in the Salem district in a limited area. The Gandhigram in Madurai district pursues multisided activities in rural uplift, one of which is hand spinning and Khadi. The Gandhiniketan, T. Kallupatti, also in Madurai district has to its credit a number of training programmes, of which Khadi fills an important place. Taking the Madras State as a whole as a result of the efforts of the Government and the other institutions working with the same objective, Khadi provides work for over 5 lakhs of spinners and weavers and distributes wages to the tune of Rs. 2 crores annually.

The average income of an agricultural family of five members is Rs. 520 per annum, that is, Rs. 44 per month. If even two members work on the Charkha, i.e., the traditional, they can easily earn a minimum of Rs. 30 a month. This constitutes 70 per cent increase in the family earnings. If it is the Ambar Charkha the earnings are much more.

The Charkha has come as a boon to many a peasant families in Madras State, as well as other parts of India. It has an important place in our rural economy.

State Transport

Madras City.

The fleet strength of the Madras City branch remained at 450 in the month of July. No operational changes had taken place during that month.

An average number of 335 buses were operated per day and a collection of Rs. 16,10,396 was brought in and 12,469,815 passengers were transported.

Kanyakumari.

The fleet strength of the Kanyakumari branch was 94 and an average number of 64 buses was operated in the month. The Nagercoil–Kuzhithurai route was extended to Kaliakkavilai. The total collections for the month of July were Rs. 2,43,616.41 nP. and 882,937 passengers were carried.

The Charkha Goes to a Kotah village

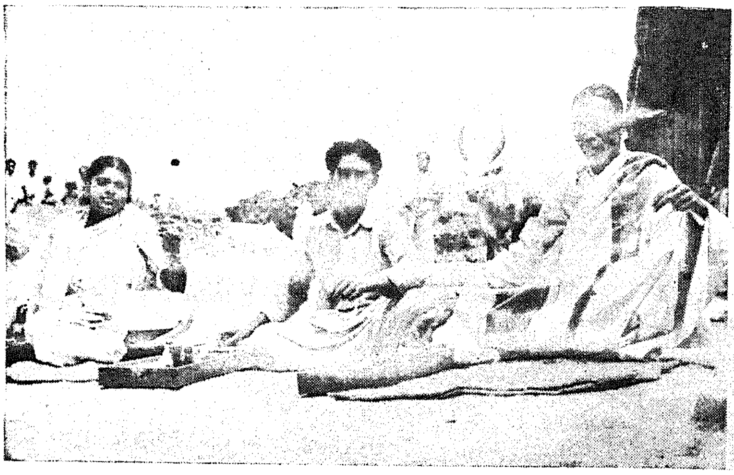
Anyone who wishes to see a Kotah village may make a 14-mile trip by rugged road from Ootacamund to Tiruchigadi. The Kotahs are Adivasis of the Nilgiris and are scattered over a number of hamlets in the Nilgiri ranges. Tiruchigadi is a typical kotah hamlet fourteen miles from Ootacamund, reached by road which is partly well laid out and partly rugged and bumpy; in places there is no road as such but deep dents and ruts. Jeeps and lorries (which carry potatoes and other produce) of course negotiate the road with some effort.

The Kotahs are a well built exclusive race. Even the men wear their hair long-mostly (but, if only well groomed, they can pass off for any modern Indian dancer !). The Kotas have their own agelong customs and manners, well preserved in their shells of hamlets. So exclusive are they, that, till recently, they would not allow any outsider to take residence in their hamlet. Only recently they have graciously made exceptions in two or three cases a Gramasevika, a Spinning Organiser and a Craft Instructor who all work in the hamlet for their welfare.

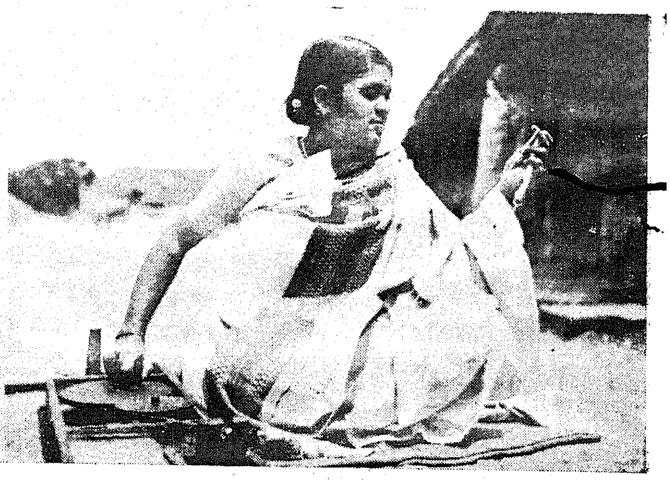
The Kotahs are a hardworking people. They were once reputed to be experts in carpentry, woodwork and blacksmithy; but now it is all a lost art with them. They live by farming their small patches of land in which they raise potatoes, wheat, ragi and vegetables. Both men and women work in the fields and the crops they raise give them enough food for themselves and something more which they sell. Their wants are few and they are a self-contented lot and are fairly well off. Even in the matter of lighting the fire they are still not quite dependent on match-boxes, but produce fire by the primeval method of rubbing two pieces of wood. (A demonstration of this was given to the visiting party.)

They have their own " folk music " and dances which they execute to the accompaniment of crude instruments, drums, horns, cymbals, etc. Their language is an unwritten one and is peculiar having no definite affinity with any of the existing Dravidian languages. But most of them can talk and understand Tamil. Their womenfolk are hefty and strong and have a naive charm about them. They seem to have no defined religion but they have their own rites. There is a small building, which they call the temple, where worship is conducted once a week by a priest of their own clan. The worship consists of offering of milk and nothing else. "No coconut, no camphor, no betel leaf, no fruit " asserted an elder among the Kotahs, talking of temple worship. The image (unnamed) in the temple, is akin to a Sivalingam and the divinity it symbolises seems to have a Saivite affinity.

The Kotah women learn handicrafts like fret-work.



A Kotah family spinning in front of their house.



Srimathi Rajammal who won a prize in a spinning competition.

Now, to this sequestered hamlet came the Charkha two years ago when the Government's welfare programme through Community Development spread into the Nilgiris. The Block Development Officer at Ootacamund spread his welfare net among the Kotahs of Tiruchigadi. In its wake came women's welfare also and the Kotah womenfolk are being given training in handicrafts like fretwork and embroidery. When the Block Development Officer through the Gramasevika and Spinning Organizer brought the Charkha into the Kotah homes, they took to it enthusiastically; when the Women's Welfare Department set up a training centre for fretwork, toy making and embroidery, they took to that also equally enthusiastically. But the work of introducing spinning and the handicrafts has of course been no easy job and it was as rugged and uphill as the road leading to Tiruchigadi. The village workers, undaunted by initial handicaps persevered in their effort and to-day there are about fifty spinners plying the Charkha enthusiastically and a same number of people fashioning odd shapes of animals and objects in brilliant colours for the delectation of children.

The writer who visited the place some time ago, gathered a few interesting facts and facets of Kotah life in this hamlet. Tiruchigadi consists of 86 "houses" in which the 250 and odd Kotahs live. All the families own land and are cultivating farmers. Since all of them cultivate their own land, they rarely employ outside labour. But when they do it, the labour costs Rs. 1-8-0 per man and annas 12 to Re. 1 per woman per day. If they engage themselves in casual labour, these are the wages they earn too. One typical Kotah family was taken for sample. Jogi Khambatta is the head of the family. He and his wife, his son and his daughter-in-law and unmarried daughter all work. They all spin. Rajammal, the sprightly but coy daughter-in-law, wreathed in smiles, demonstrated her skill in spinning. She had own a prize too in the spinning competition. She proudly averred she could spin two to three hanks per day but this is not regular as all of them are engaged in cultivation for six to eight months in the year. Between them, Jogi Khambatta's family had spun 25 hanks during the previous month and earned about Rs. 5. This of course is an extra income for them. They exchange yarn for Khadi cloth too. Taking this as a typical example, Jogi's family can add Rs. 60 per annum to its total income. The total income by agriculture, according to him, is about Rs. 1,200 per annum and he gets Rs. 800 net out of that. So the Charkha adds nearly 9 per cent to their income. But this is a conservative estimate and after all these people do not spin for their livelihood. What they get out of it is extra. If they want more, they can always put a few hours more daily and double or triple this extra income.

Tiruchigadi is but a typical example in Madras State, where Community Development work and the Charkha are just taking root. There are several such villages and hamlets in the hills and plains and the Block Development Officers can certainly reach them and teach them the new way of life.

KHADI

The various Khadi Production Centres of the Department of Khadi, of the Madras Government, produced 316,590 yards of Khadi valued at Rupees 5,26,284-14 nP. in the month of July 1959.

During the month Government Khadi Sales Depots and other agencies have sold 262,184 yards of Khadi valued at Rs. 7,23,409-02 nP.

During August 1959, 320,936.04 yards of Khadi worth Rs. 8,17,454.02 were produced and 241,068.07 yards worth Rs 7,33,071·71 were sold by the Khadi Department through its various agencies.

Between 1st April 1959 and 31st August 1959, 1,417,837.06 yards of Khadi worth Rs. 36,86,296.74 were produced and 970,780.01 yards worth Rs. 29,02,35,492 were sold.

PRESERVE WILD LIFE!

SRI M. BAKTHAVATSALAM, Minister for Home.

Wild Life is an important natural resource. So, we have it here that wild life is an integral part of our fields, our forests, our entire environment. Further, wild life figures prominently in our mythology. Our religions teach us to love and even venerate it. Even our history shows that our rulers of olden days were great lovers and champions in the cause of wild life. Thus, we have rules framed and imposed for the preservation of wild life from the days of Emperor Asoka. Our Art and Literature abound with inspiring references to the beauties of wild life. To quote Prime Minister Nehru "Life would become very dull and colourless if we did not have these magnificent animals and birds to look at and to play with". The study of wild life can be an exhilarating experience. All the time, we unconsciously enjoy wild life; now it is just a brightly coloured or sweetly scented flower, now a picturesque valley or an attractive animal. The beauties of wild life are continuing and are always there waiting for man to become aware of them. And so, it behoves us to preserve wild life in every way we possibly can.

But our wild life has suffered badly at the hands of man. Any shikar book of earlier days of this century will show this clearly. And then, there are the vast destructions by poachers and commercialized meat hunters. In our insatiable need for land and food, our wild life has been reduced to a vanishing asset. As a result, we have now reached almost the same unenviable position as many of a western country of having to look back with regret on no more than a glorious past. Some of our rare precious animals are at the verge of extinction. The Indian Rhinoceros has been reduced to mere 300 confined to two or three pockets in India. The Indian Lion is represented by an equally small number confined to a single area. The cheetah is virtually extinct. The elephant and the tiger are also struggling against odds. The urgency for preserving our wild life is therefore immediate and can no longer be ignored. It is high time that everyone in the country realized the importance of this urgent need. It would, indeed, be sad if some of our magnificent animals were to survive a few years later only in books and pictures.

It is a wonder then that we are now endeavouring to secure popular enthusiasm and support for the cause of wild life. As one of the measures towards that objective, we have been observing 'Wild Life Week' every year under the guidance of the Indian Board for Wild Life. Last year, 'Wild Life Week' was observed throughout the State with great enthusiasm and met with abundant public response. 'Wild Life Week' this year commences from the 1st of October. The observance will in fact extend over most of the month.

It might be asked what is the present state of wild life in our State and what has been done to protect and improve it. The habitat of our wild life is dwindling with the expansion of cultivation and of development work on all sides. The Nilgiris and Palni Hills are even now well-known for their traditionally large content of wild life and were really well stocked not so long ago; but animal life is now very far from common in these tracts. Of course, we have afforded a good home for our wild life in the Mudumalai Sanctuary; but even in the forests round about there, game is reported to be getting less common. Top Slip in the Anamalais, the Hassanur Plateau in North Coimbatore and part of the Western Ghats in Tirunelveli and Kanyakumari districts still harbour a fair stock of wild life. The other noteworthy pockets are the bison in the Alagar Hills in Madurai district and in the Javadis near Vellore and the black buck in the Vedaranyam area of Tanjore district, besides the artificial oasis that is Guindy Park for chitals and black buck.

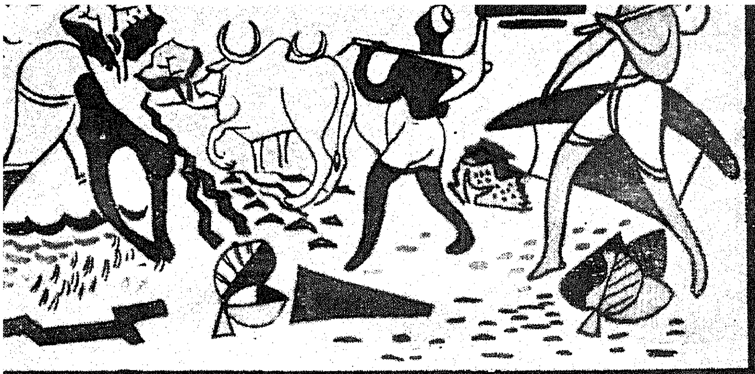
Government have been giving special attention to the improvement of our Wild Life Sanctuaries by affording conditions which would encourage wild life on the one hand and by providing amenities to visitors on the other. In the Mudumalai Sanctuary, artificial salt licks have been formed effectively. Early burning of the ground cover has been attempted last cold weather in order to afford the animals the attraction of an early season flush of green growth besides forestalling any disastrous conflagrations from late fires. Special staff is engaged intensively to patrol and watch the area, so that animals may be caused no disturbance by poachers and others. A new rest-house has been put up and adequately equipped. New roads and jeep tracks are being formed to render movement through the area easy. Some observation towers have been put up. Special facilities are being afforded for wild life photography.

The Forest Department has adopted the Vedanthangal Bird Sanctuary. While it is a happy fact that the people of the village have for decades recognized the value of the bird resort to their cultivation and therefore have cared for the birds here with zeal, organized protection is in hand only now. Besides elimination of all shooting in the vicinity of the Sanctuary, the actual area inhabited by the birds is being cordoned off by a barbed wire fence to keep off intruders and cattle. Fruiting plants and shrubs are being planted on the bund. Supply of water to the lake has been augmented by diverting into it the surplus water of a nearby tank. Steps are in hand to improve the approach road to the Sanctuary and to provide camping and other facilities on the spot for visitors.

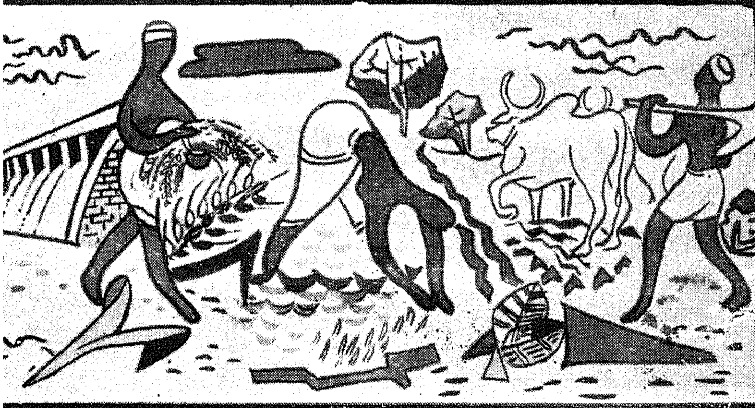
On the occasion of 'Wild Life Week', may I appeal to you all to join me in renewing our Wild Life Pledge:—

"Born and bred in the land of Buddha and Gandhi I give my solemn pledge to protect our country's forests and their voiceless denizens from wanton and wasteful destruction."

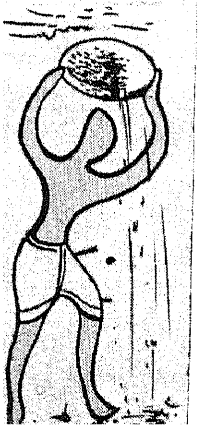
[Excerpts from the broadcast speech over A.I.R. introducing Wild Life Week on 30th September 1959.]



COOPERATIVE



FARMING



TEN-FOLD

ADVANTAGES

It is wrong to think that the idea of co-operative joint farming has suddenly been thrust on the nation. It is, perhaps, not adequately realized that the programme of co-operative farming was mentioned in the First Five-Year Plan and it forms an important part of the Second Five-Year Plan in the scheme of rural organization.

It should be clearly understood that co-operative joint farming is fundamentally different from collective farming, as practised in the totalitarian countries. Firstly, co-operative farming is, in the very nature of things, entirely voluntary and optional, whereas collective farming is necessarily compulsory, although it may appear democratic on paper. Secondly, co-operative farms, as visualised in Indian planning, should range from 50 acres to 100 or 200 acres, while the collective farms in totalitarian countries range from 5,000 acres to 40 or 50 thousand acres. It is quite natural that on account of the big size of these collective farms, the farmers tend to lose their individuality and become cogs in a huge machine. Thirdly, large-scale mechanization is an essential part of the collective farms, whereas the co-operative farms in India need not resort to excessive mechanization. In our country, owing to pressure of population, what is necessary is intensive farming and not extensive and mechanized farming.

It is obvious that co-operative farming will be practised by agriculturists in India only if they are able to see certain obvious advantages in its adoption. There are at least ten economic advantages in following the programme of co-operative joint farming:—

1. There will be a more rational use of animal and human labour through co-operative endeavour.

2. It would be possible to step up capital formation by pooling all resources for effecting improvements in agriculture, particularly irrigation and improved implements.

3. The farmers will be able to afford fuller use of scientific techniques in agriculture, like the Japanese method of rice cultivation, improved strains of seeds, green and compost manuring, insecticides, etc.

4. Elimination of economic exploitation by middlemen could be achieved through co-operative marketing of the farm produce.

5. There will be emergence of local and community leadership through co-operative planning of village life.

6. This higher form of economic organization will be able to absorb a good number of educated young men within the village and thus prevent their migration to the cities.

7. Small and poor farmers, who are regarded as non-credit worthy to-day, will be able to receive adequate credit and other facilities by joining a co-operative farm.

8. Joint farming will make for a richer and diversified village economy by the establishment of different village and processing industries to supplement agriculture.

9. The Government will be able to distribute various supplies and provide technical knowledge in a more systematic and efficient manner to co-operative farmers, rather than to a large number of individual farmers. Collection of agricultural statistics will also be much more reliable and scientific.

10. Better agricultural planning through co-operative farming will release more time to both men and women of the village for social and cultural activities.

These ten-fold advantages of co-operative farming should be carefully explained to the Indian agriculturists, so that they may feel attracted towards co-operative farms out of their own free will.

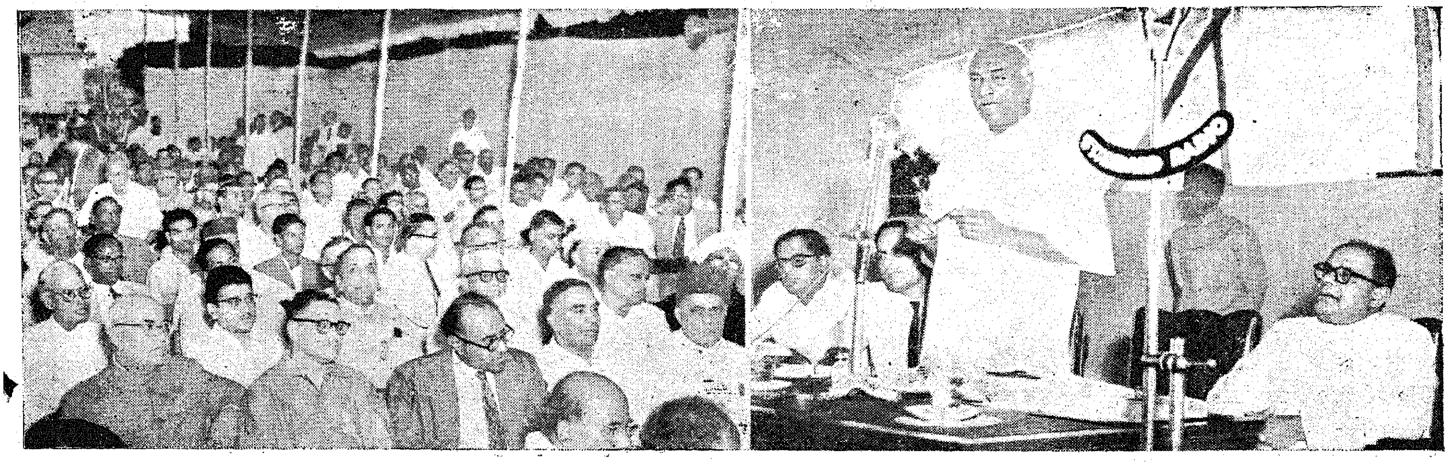
It is being propagated by the critics of co-operative farming that once an agriculturist joins such a farm, it would never be possible for him to opt out of the farm. This is also wholly erroneous. It is true that once a farmer joins a co-operative venture, he should give it a fair trial for some years. But, if after a few years, he unfortunately finds it unprofitable to continue his membership of the co-operative farm, he can leave the farm, provided he gives due notice, say, of one year, repays all his loans and other liabilities, and deposits adequate compensation with the co-operative farm for improvements on his plot of land. After discharging these obligations, he may be returned either his original piece of land or another plot of land equivalant in value. All this would depend upon the terms of the original contract at the time of farming of the co-operative farm. There should be no rigid or fixed pattern of a joint firm. There can be endless variety and flexibility to suit local conditions, in accordance with the wishes of the farmers joining together.

As has been repeatedly emphasized by the Prime Minister, our main emphasis should be on the establishment of Service Co-operatives throughout the country within the next two or three years. It is expected that the farmers will realize the practical advantages of co-operation in the field of agriculture and would start joint farms out of their own accord. There should be no attempt on the part of social or political workers to force the pace of co-operative farming in the country. There should be much greater emphasis on quality, rather than on mere quantity and numbers. The formation of bogus farms mainly for evading land reforms and securing Government financial assistance should be effectively discouraged. The existing co-operative farms, which are not functioning successfully, should be liquidated as early as possible.

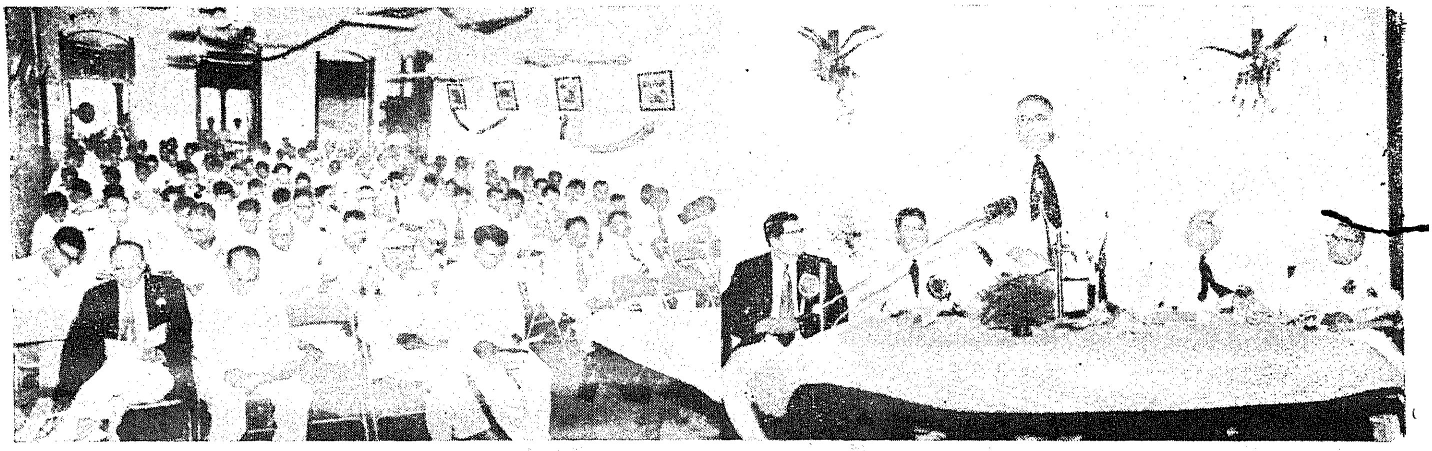
I recently visited the Intensive Development block at Dhanora in Moradabad district of Uttar Pradesh. This block is being run under the supervision of the Khadi and Village Industries Commission. They have recently started eight co-operative joint farms on a purely voluntary basis and without any Government assistance. Local leaders have formulated their own bye-laws, in accordance with their wishes. I was much impressed by the successful functioning of these co-operative farms in the Dhanora block and I would invite all critics of co-operative farming to visit the Dhanora block and see for themselves the practical advantages of joint farming on a co-operative basis.

Above, all, the success of co-operative farming in India would depend upon the honesty and efficiency of social and political workers who assist and guide the farmers in forming these co-operative farming units in various parts of the country. Co-operation is essentially a way of life and only those who have implicit faith in it can persuade others to take to it.

Shri SHRIMAN NARAYAN,
Member, Planning Commission.



The anniversary of the Southern India Chamber of Commerce was celebrated with Sri K. Kamaraj, Chief Minister, presiding.



The State Veterinary Conference was inaugurated by Sri W. R. S. Satthianadhan, I.C.S., Chief Secretary to Government of Madras.

Animal Husbandry

Sustained Effort and Patience will Yield Returns

SRI W. R. S. SATTHIANADHAN, I.C.S., Chief Secretary, Government of Madras.

The difference between veterinary science and ordinary medical science is that the veterinarians are dealing with domestic animals which have no language to tell of their ailments. It is something like the pediatrics department in medical science. Just as children are inarticulate so are our dumb friends of animal kingdom. So, veterinary science is a very difficult subject and the doctors have a hard task before them in diagnosis and treatment. Just because you are dealing with dumb animals, so much greater is your responsibility to treat them with kindness and patience and consideration. I appeal to you all to realise that, even though emoluments in the veterinary service may not be to your liking as is seen from the fact that recruitments to the Veterinary College is so difficult for lack of candidates, what you lose in emoluments, you gain in the nobility of your work and the fact that you are dealing with inarticulate life which demands a true spirit of loving missionary service.

While India has the largest cattle population in the world, about one-fifth of the world's cattle is supposed to be in India, its quality is infinitely poor. We are supposed to love cattle and the Hindu religion prohibits the killing of cattle. But while the quantum of slaughtering may be low in India, how can we excuse people who daily kill their cattle through negligence and under-nourishment and overstrain and overwork? We have acquired a large contingent of poor and under-nourished cattle which is a great liability on our economy.

The cattle draw water from the well, plough the land and carry produce to the market. They provide manure for the field and milk and milk products. In addition, the animal's skin, hoofs, horns and bones are of use. This highlights the paramount need for improvement in the quality and condition of our cattle in India.

Some years ago, rural development of cattle wealth was rather diffused. But, now that Community Development has come to highlight rural development of all sorts the emphasis is on the improvement of live-stock [illegible] Village Units have been set up in the State and they cover a number of blocks. Breeding bulls are supplied to individuals and panchayats. Artificial insemination is carried out even in distant villages. Segregation of diseased cattle in special areas is being undertaken. Medical check up and free veterinary services are rendered to all farmers who require it. Vaccination campaigns against pestilences are methodically carried out by the Block staff. Mobile dispensaries go from village to village. Improvement in feeding of the livestock goes together with the improvement of breeding. Production of quality fodder, large scale uses of oil cakes, supply of wholesome water are a few of the items.

Poultry development is next in importance to cattle improvement and is also one of the activities in the extension programme. It has been said that poultry is the only 'tree' which does not require water. Poultry rearing is easy and any farmer can take it up. Poultry keeping also is now a very profitable pastime.

(*Continued on page* 12)

A Causeway Across THE VAIGAI

SRI S. C. NAYAK,
Chief Engineer, Highways.

This district of Madurai abounds in hills and dales presenting diversity of scenery. Palani and Tiruparankudram are hills having famous temples dedicated to Lord Subramanya which attract a large number of devotees all the year round. Kodaikanal which is at an elevation of 7,000 feet above sea level is a beautiful hill-station of repute. The City of Madurai is the second largest in the State and is also the headquarters of the two districts, Madurai and Ramanathapuram. The Thirumalai Naick Palace and the Meenakshi temple at Madurai are monuments of ancient architectural beauty. One of the largest spinning mills in the world, the Harvey Mills and a number of hand-loom weaving industries are located in the city. About a quarter of the area of this district is covered by forests which are famous for the large produce of cardamom, coffee, oranges, plantains, etc. Though this district has an area of 4,900 square miles it has got railways to a length of 190 miles only and that too of metre gauge. [illegible] the main mode of transport in this district is by roads which stretch up to 2,500 miles. Naturally there is heavy bus and lorry traffic on all the roads and the district has an efficient road transport system run by private enterprise.

The river Vaigai cuts this district into two halves and interferes with the north-south fast traffic for nearly half the width of the district. After the Peranai Anicut the river is bridged only at Madurai on the Benares-Cape Comorin Road. At Melakkal two important major district roads cross, i.e., the Tirumangalam-Pallapatti road and Madurai-Nilakottai road and hence thousands of vehicles have to pass through the existing bed level causeway every day. The Tirumangalam-Pallapatti road is a short-cut compared to the Benares-Cape Comorin Road, the National Highways between Dindigul and Tirumangalam and runs bye-passing the crowded City of Madurai. Hence the through traffic from places north of Dindigul to places south of Tirumangalam naturally takes this road and saves a distance of more than 12 miles. The bed level causeway that is existing now gets overtopped even in ordinary floods and during monsoon there is no certainty about this route due to the unfordability of the causeway. A look at the district map will show that about half a dozen roads carrying traffic bound for north meet at Madurai and that an equal number of roads with south bound traffic converge at Dindigul. All these vehicles crowd on the National Highway between Madurai and Dindigul especially during rainy season and this high-level causeway will help to divert a good portion of the traffic and relieve the congestion on this sketch of National Highway in general, and the too much strained Albert Victor Bridge in particular.

The cost of high level bridge will be near about 10 lakhs as against the cost of this submersible bridge which is constructed at less than Rs. 5 lakhs. Further the bed level causeway, being located on a bend of the river, gets damaged very often due to cross currents and has to be repaired constantly thus proving itself a perennial drain to the public exchequer. Raising the existing causeway by providing a battery of pipes was first thought of but the foundations were very shallow and hence the proposal was dropped. Frequent high floods cannot be expected henceforth now that the construction of the Vaigai Reservior has been completed and the flow is under control. Hence a bridge well above ordinary floods and submersible under maximum floods alone will suit the locality best as maximum floods will be rare and may not even recur under the present conditions.

The river Vaigai is the important river of this district and brings down the life-giving waters of the Periyar lake. Across this river there is a causeway under construction near Sholavandan at a cost of about Rs. 5 lakhs and a high level bridge near Madurai at a cost of about Rs. 10 lakhs. The Albert Victor Bridge at Madurai was recently widened and provided with foot-paths to relieve congestion. There is a proposal to widen the pipe-vented causeway also near the Albert Victor Bridge. Yet these three structures near Madurai cannot cope with the enormous local pedestrian and vehicular traffic, since the river runs through the heart of the City which is expanding day by day. Hence

there is a proposal to reconstruct the Albert Victor Bridge with a wider roadway at a cost of Rs. 17 lakhs during the Third Five-Year Plan period. The Third Five-Year Plan for roads which is prepared on the basis of the All-India Road Development plan for 20 years, envisages an outlay of nearly Rs. 2.25 crores for this district for roads and bridges. Long stretches of ghat roads are being formed in the western part of this district at a cost of nearly Rs. 28 lakhs under the scheme for the roads of Economic and Inter-State Importance. When all these are completed this district with large natural resources is bound to prosper further.

The high level causeway now completed and to be opened shortly is 1,100 feet long with 23 vents of 25 feet length each. The piers are taken through open and well foundations to rock. The entire structure is of cement concrete. The width of road-way is 24 feet clear and the deck is designed to carry even the heaviest military tanks. Kerbs and guide posts are provided for safety. About 970 tons of cement and 141 tons of steel have gone into the work. Approaches on either side have been so formed that minimum area of wet lands is acquired. The total cost of this project comes to Rs. 4.7 lakhs. The work has taken just two years to be completed and considering the difficult foundation problems the progress is satisfactory.

It appears Mother Goddess has been partial to this district in having endowed its people lavishly with creative imagination and engineering skill. This beautiful bridge, harmonizing as it does, with the natural landscape all round will be a worthy addition to its structural treasures. The ancient scripts speak of Lord Chokkanatha himself having participated as a labourer in closing the breaches of this river Vaigai in spate in ancient times. Let us understand the moral behind this ancient anecdote, viz., " Dignity of Labour ", and dedicate this bridge to the hundreds of labourers that participated in its construction and the public at large who use this route.

'C' Forms under Central Sales Tax Act.

Under the Central Sales Tax Act, 1956, every dealer who makes inter-State purchase is required to furnish to the selling dealers in the other States, a declaration in Form C prescribed in Rule 12 of the Central Sales Tax (Registration and Turnover) Rules, 1957, to avail himself of the concessional rate of tax of 1 per cent. The ' C ' forms which were in force immediately before 1st October 1958 were permitted to be used with suitable modifications, up to 30th September 1959. The Government of India have extended the period of validity of the old declaration forms ' C ' till 30th September 1960. Accordingly, the dealers registered under the Central Sales Tax Act can continue to use the old declaration forms ' C ' with suitable modifications, up to 30th September 1960.

(*Continued from page* 10)

The epidemics in poultry which wiped out the whole lot in vast areas in one blow have been mostly mastered by research and mass inoculation. With a small investment of about Rs. 100 and a little amount of extra work the farmer and his family can earn an additional income of Rs. 15 to 20 a month. The Animal Husbandry Department arranges to supply improved breeds like Rhode Island Reds or Leg-horns. Uneconomical indigenous varieties are being gradually eliminated from the villages. Incubators in increasing numbers are being provided for hatching eggs.

Veterinary assistant surgeons and others of the Animal Husbandry Department are the officers employed in this extension programme. They should be in a position to take all their scientific knowledge to the farmer and help him to use it. This task should be carried out with vigour and determination and a love for the work. With the help of Grama Sevaks the Extension Officers for Animal Husbandry implement the Animal Husbandry programme in the villages. It should be realised that considerable judicious decentralisation in animal husbandry, is necessary and that the Grama Sevak who is fairly well trained in simple animal husbandry methods should be made a useful instrument to expand the activities of the department in the villages and to take an active part in simple treatment. Unlike many other items of work which catch the imagination of the people quickly, it requires sustained effort and patience to deal with the Animal Husbandry programme. Madras State, no doubt, leads in the steps taken for preventive inoculation and treatment of animals. It also stands first in the standard of working of the Key Village Units and artificial insemination centres.

This department, therefore, has done well. My only criticism, is that perhaps you are somewhat lacking in imagination. While poultry and sheep are being attended to, nothing has been done so far as I know, for the improvement of duck breeding in villages. Pigs have been grievously neglected. The exotic types of poultry like geese, Guinea-fowls and turkies have been completely neglected. I make a special plea for the milch goat which had the blessings of Ghandhiji. Mr. Devalosis whom I respect for his vast knowledge of animal husbandry was a real devotee of the milch goat. He felt that it was the proper answer to the shortage of milk in villages. I have repeatedly been urging your Director to pay attention to these items as well as to take pride in trying to raise special types of Indian dogs suitable to the climate and with distinctive breed characteristics. I urge the department to give up being complacent over its undoubtedly fine achievement and to strive ever and ever for improvement and advancement not only of the regular types of livestock but also of new ones. What is needed is not only energy and determination but bold imagination and enterprise to launch out into new and fruitful pastures.

[From the speech delivered while inaugurating the State Veterinary Conference.]

Visible Record Controls System

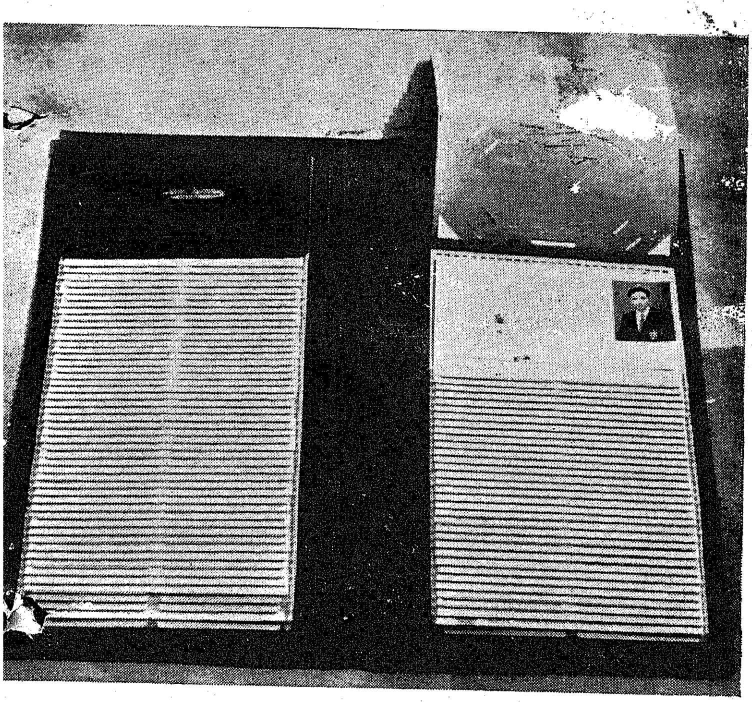
Dr. I. D. MANTRAMURTI, G.M.V.C., B.V.SC.,
Deputy Director of Animal Husbandry, Madras.

We hear it said often enough that students of the present day are lacking in discipline and that their standard of attainment is rapidly deteriorating.

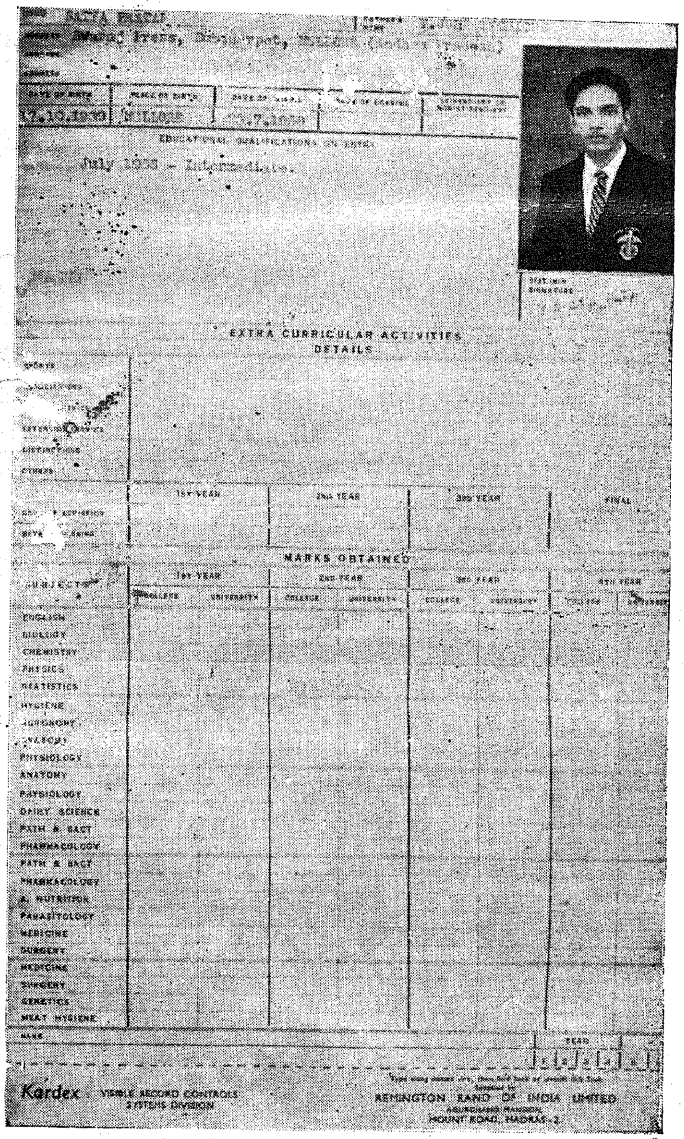
Causes for Indiscipline.

The main cause for the first is chiefly want of proper facilities for supervision at home and in the educational institutions. The stress and strain of modern living makes it almost impossible for the middle-class parent to bestow the attention that a youngster needs in the crucial period of his life, namely, adolescence. If students are not individually looked after in Colleges as they ought to be, it is evidently due to overcrowding in institutions maintained by inadequate staff whose pay and prospects are not tempting enough to make them interested in the serious and arduous task of moulding the character of the young people entrusted to their care. Want of sufficient interest on the part of staff and students may lead to improper teaching methods, inefficient supervision, non-recognition of real merit among students and routine examinations without proper tests which drive them to the utmost necessity of cramming something, more to pass the qualifying examinations than to acquire useful knowledge.

Lack of discipline may also be due to undiplomatic handling of situations by the staff making easy ones really complicated. The tendency to gain the cheap popularity of the students by various means like not holding classes during stipulated hours, lack of punctuality and an overcrowded time-table which does not give the students their leisure when they are



The Kardex Folder.



A Sample Card.

actually in need of it are some of the common causes. Insufficient furniture, wooden galleries, overcrowded accommodation, insanitary conditions and unsympathetic supervisory staff add fuel to the fire.

Students cannot therefore be fully blamed for their low standard of achievement as neither the present standard of living nor the teaching methods afford the necessary scope for them to go on with their work without distraction or disturbance.

Accustomed to spoonfeeding in high schools, they have no taste for original work nor the self-reliance and perseverance necessary for any individual effort. Somehow they pass their examinations by cramming at the fag end of the year without being steady plodders throughout.

The Tutorial System.

To remedy these defects, we need not only adequate staff but also the right type to supervise the work of the students throughout the year. A single member of the staff should be put in charge of only ten to fifteen students. If this is done, indiscipline among students can be minimized to a large extent. The timetable should be so arranged that the students meet their tutor at least once a day. A record of their conduct, character and application must be kept by the Professors-in-charge and duplicates sent to the head of the institution every month with their remarks, if any. The Principal must, of course, maintain a record of all the students.

Kardex (Card Index).

In a large institution where there are thousands of students, it is really difficult to maintain records and have them for ready reference. It is here that Kardex is of great value. There is a card for each student. The headings and columns on the card may vary according to the needs of an institution and there is no hard and fast rule about them.

In the Madras Veterinary College special cards have been designed by the author to suit most of the requirements of the students and special books have been opened for each class with the help of a firm who undertook to supply them. A copy of the card so designed is given above for the information of the readers. It may be seen from this card that particulars of the students' nativity, antecedents and progress in College, hostel and extra-curricular activities are jotted down so that a student's progress can be watched periodically by an Evaluation Committee whose report reaches the Principal at monthly intervals for drawing the attention of the students and their parents, if necessary. These cards also have a passport size photo of the individuals fixed in one corner with the student's signature at the bottom for easy identity to pay his stipends, to sanction his concessions and the like which are very valuable in the case of students coming from outside the State and those coming from other countries under the Cultural Relationship Scheme.

These cards are arranged classwar alphabetically in plastic holders with only the names visible to the opener. A photo print of the Kardex system is shown above for the information of the readers. Each card contains the following particulars : Name of the candidate, his parentage, nativity, address, hosteler or days scholar, stipendiary or not, achievements and qualifications on admission, interest in extra-curricular activities, duration of his stay in each class and in the College, attendance and marks in each subject, both in the College and University and success in examinations, etc. All these, you will agree, are very essential for judging a student's merit not only while he is in the College but also after he has left it for employment, promotions and deputations, etc., if need be, especially in the case of a professional institution, run by the Government.

A beginning has just been made in easy maintenance of records with the aid of Kardex and those interested can go ahead and perfect it. It cannot be said that Kardex is an aid to discipline but that it helps to maintain neat and compact records which have a big role to play in the maintenance of discipline. I wish it is given a fair trial in all Colleges.

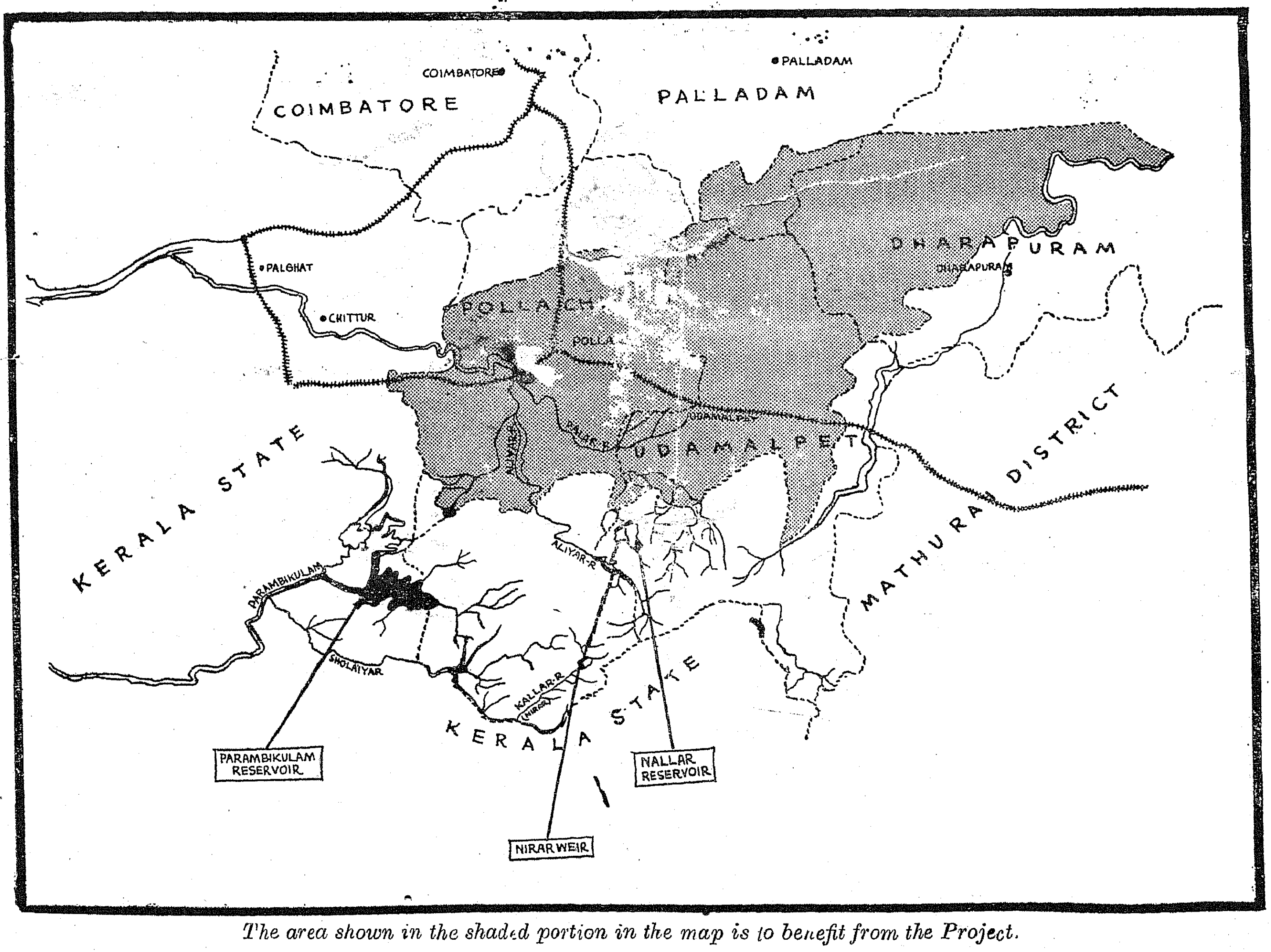
Control of Guineaworm Disease

The Government have sanctioned a two-year programme for the control and eradication of Guineaworm disease in the endemic areas of the State at a cost of Rs. 90,000 non-recurring and Rs. 1 lakh per year recurring. Guineaworm disease is an important public health problem in the State in areas where step wells and ponds from the chief source of drinking water-supply. Surveys so far conducted by the Public Health Department show that the disease is hyper endemic in the districts of South Arcot, Tiruchirappalli and North Arcot and moderately endemic in the districts of Madurai, Salem, Tanjore, Coimbatore, Ramanathapuram and Chingleput. The disease is to be tackled by chemical methods which aim at the destruction of infected cyclops by such chemicals as stable bleaching powder, 50 per cent DDT wettable powder and Gammexane R-120. Hitherto measures for the control of the disease, using chemical materials, have been very effective, hence the present State-wide scheme, and the programme will be worked on a continued, systematic and sustained basis. With effect from the date of introduction of this programme the schemes which are at present worked by District Boards will be merged with the State-wide programme and grants, if any, paid from State funds will be discontinued. However, in view of the fact that the vehicle of transmission of the disease is water, the permanent method of eradicating disease lies in the provision of safe potable water, and this being a long-term measure and slow of progress, the Government have, in order to obtain quick results, sanctioned the present scheme as an interim measure.

The Parambikulam-Aliyar Project

SRI U. ANANDA RAO,
Special Chief Engineer, Parambikulam-Aliyar Project.

The Parambikulam-Aliyar Project envisages diversion of a few west flowing rivers, having their sources in the Anamalais of Madras State. Waters of Nirar fully, of Parambikulam Ar subject to a maximum of 16,500 m.c.ft. and surplus from Sholiar after meeting the requirements of Kerala Sholiar Power House, will be diverted for the use of Madras. On an average we can divert about 28,000 m.c.ft. per year from the western side. During favourable years, it may be possible to divert more water from Nirar and Sholiar. A weir will be constructed across Nirar within Cinchona Plantation limits and Nirar waters diverted to Sholiar valley through a tunnel of 1,600 cusecs capacity, which is as big as the one recently constructed at Periyar. A dam will be thrown across Sholiar within Pannimede Estate limits at the bridge site to form a reservoir of 5,200 m.c.ft. net capacity, bigger than the one across Amaravathi, to store not only the surplus waters of Sholiar but also those of Nirar received through the tunnel mentioned above. Between Sholiar and Parambikulam valley, there is a fall of 1,300 feet which will be utilized to develop power to an extent of 70,000 kilo watts. After developing power, tail race water will join Parambikulam Ar across which a dam 200 feet high will be built at Pulicalmudi. This is the key reservoir in our Project and it has a gross capacity of 16,700 m.c.ft. and a net capacity of 12,700 m.c.ft. This reservoir will collect and store flood [illegible] from all the rivers



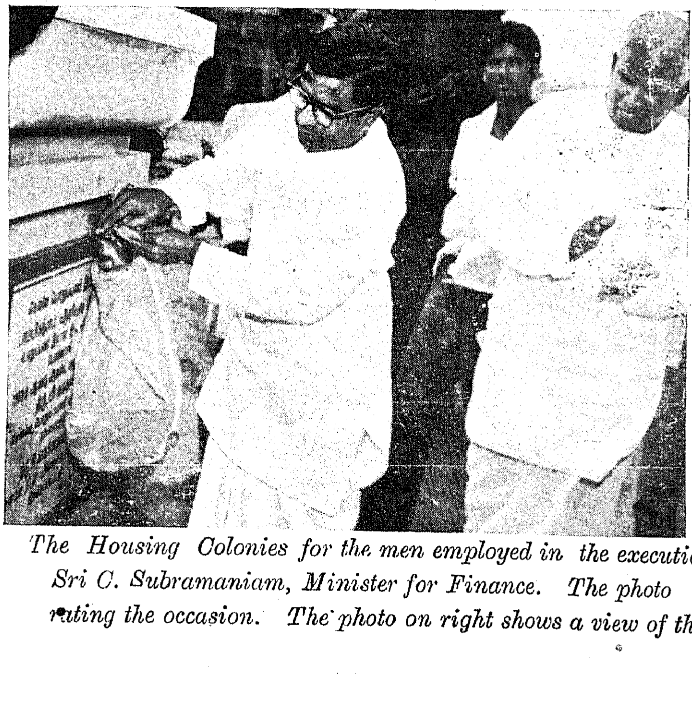
The area shown in the shaded portion in the map is to benefit from the Project.

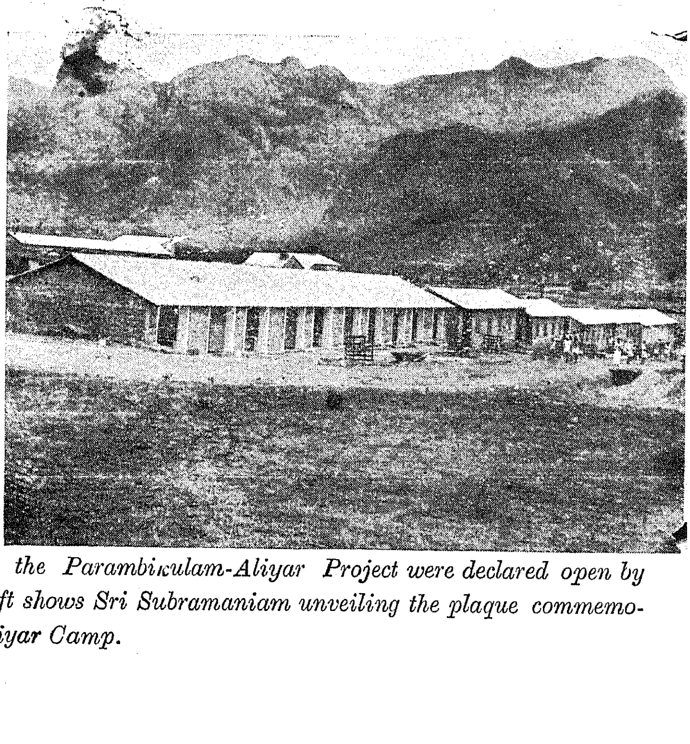
mentioned above and release as and when required controlled quantities of water for Power and Irrigation. There will be also a reserve storage in the reservoir to store surplusses of good years and to carry them over to lean years.

Water will be taken out of the reservoir through a tunnel to Tunakadavu valley which in its turn will be blocked to form a balancing reservoir from which water will be drawn through a Power tunnel towards Madras side to Sirkarpathi Power House. It is proposed to develop 25,000 K.W. of power, thus making a total of about 100,000 K.Ws. under Parambikulam-Aliyar Project. From the tail race of this Power House, two canals will take off, one at higher level, viz., at + 1,400. This canal named Contour canal, to distinguish it from other canals, will flow along the northern rocky slopes of Anamalais and ultimately fall into Tirumurthi (Palar) reservoir near Dhali. Another canal will take off at a lower level called Aliyar feeder canal, and tail into Aliyar reservoir. Tirumurthi reservoir will feed mostly the areas in Udumalpet, Palladam and Dharapuram taluks, whereas Aliyar reservoir will feed the areas in Pollachi taluk. On the whole, it is proposed to irrigate 250,000 acres in all these taluks. A special feature of this irrigation is that about one-fifth or 50,000 acres will grow paddy, while the balance will raise dry crops, like groundnuts, millets and cotton. Water will be supplied in two zones and in two seasons, half the area receiving water for irrigation from July to middle of November and the second zone from middle of November to end of March. These periods are only tentative and could be advanced if required, so long as the total period of irrigation season of nine months is not exceeded. The two zones will be alternated each year.

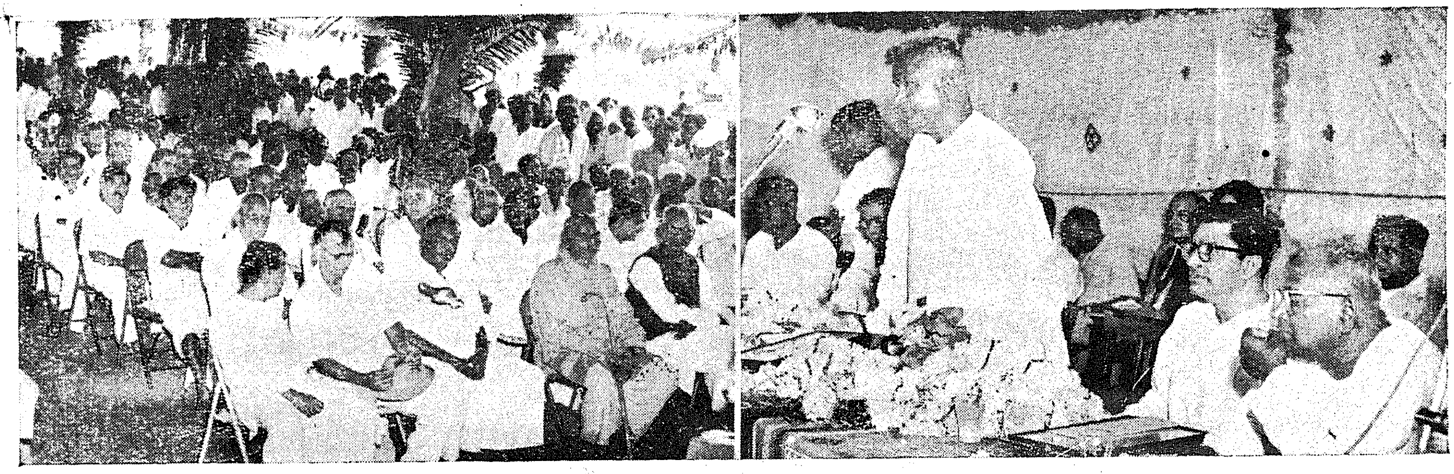
One unique feature of this project will be the lining of all canals and distributaries with cement, concrete two and half inches to three inches thick, which will, not only minimize seepage losses, if not prevent them altogether, but also save water to augment the ayacut under the project. Provision has been made for excavating field bothies at Government cost, down to 25 acre limit. Provision also has been made to excavate field bothies even below the limit, viz., down to 5 acre limit, if the ryots so desire, but, it will be constructed at the cost of the ryots, from whom a sum at the rate of Rs. 15 per acre will be recovered. At each 5 acre point, definite quantity of water required to irrigate one acre of paddy and 4 acres of dry crops will be issued and the ryots will be at liberty to cultivate whatever crop required by them, so long as the quantum of supply of each point is not exceeded. If more water is required, it should be supplemented from wells, whose supply also will get augmented on account of the project. Another feature of the Project is the integration of Canal waters with seepage water and surface drainage water due to rains. A few small reservoirs will be built across drainage courses and all seepages and run offs from the monsoon will be stored in these reservoirs and reused. Further to utilize underground water, permission will be granted to dig as many wells as possible to supplement the canal water. This will prevent subsoil water coming up unduly high and water-logging the valuable lands in low lying areas.

This Project is a mammoth Project, compared to those taken up so far in Madras State, as it envisages construction of 7 reservoirs—5 in Anamalais, 2 in the plains, 12½ miles of Inter-connecting tunnels, two major weirs, one across Nirar and the other across Aliyar, 30 miles of Contour Canal in a difficult terrain and 128 miles of lined main canals and several miles of distributaries. The Project is expected to cost about Rs. 31.03 crores, including 10 per cent direct and indirect charges and yields an annual return of 4.6 per cent on the sum at charge or 5·64 taking into





The Housing Colonies for the men employed in the execution of the Parambikulam-Aliyar Project were declared open by Sri C. Subramaniam, Minister for Finance. The photo on left shows Sri Subramaniam unveiling the plaque commemorating the occasion. The photo on right shows a view of the Aliyar Camp.



Sri P. Kakkan, Minister for Works, addressing the gathering.

consideration betterment fee contribution from the ryots. The Project takes into credit a sum of one crore of rupees from Kerala for providing facilities to divert 2,500 m.c.ft. from the system and another 1,000 m.c.ft. from Aliyar to Chittur area of Kerala. The estimated cost of rice, millets and cotton produced in the area is in the order of Rs. 5.34 crores per year. Work is scheduled to be completed in five years, excluding the present year which will be utilized for preliminary works.

Another special feature of this project is its feasibility for development in stages, each stage benefiting a substantial portion of the ultimate ayacut. Unlike other big projects, it is not necessary to wait till the completion of the whole Project. As an example, as soon as Aliyar Reservoir is completed, which we hope to do in three years, we may irrigate about 20,000 acres. Starting with the lowest reservoir, viz. Aliyar, we hope to build storages higher up, correspondingly increasing the areas under the Canals. By proper planning and timing, it may be possible to achieve full project. However the gigantic work is not all plain sailing. Several hurdles, such as clearance from the Planning Commission and Kerala Government, release of foreign exchange for the purchase of machinery, posting of adequate construction staff and provision of adequate funds are still there to overcome. Given the good-will on all sides, there is no doubt that all these hurdles will be overcome one by one in due course and the project will be a fait accompli in the course of next five years.

Preliminaries like formation of roads, improvements to the existing roads, improvements to the existing and construction of new power lines and construction of camps and buildings for the staff of the construction divisions are being taken up in the first instance to enable the construction of dams and allied works to be taken up immediately on receipt of approval from Government. To attend to these works, initially four divisions with requisite staff have been sanctioned and are attending to these works.

Thermal Power Station for Neyveli

The delivery of equipment from Russia for constructing the thermal power station at Neyveli will begin in November this year, it is learnt here. The delivery is expected to be completed in the last quarter of 1961.

The thermal power station will have an installed continuous rated capacity of 250,000 K.W. and is one of the schemes included in the Integrated Neyveli Lignite Project.

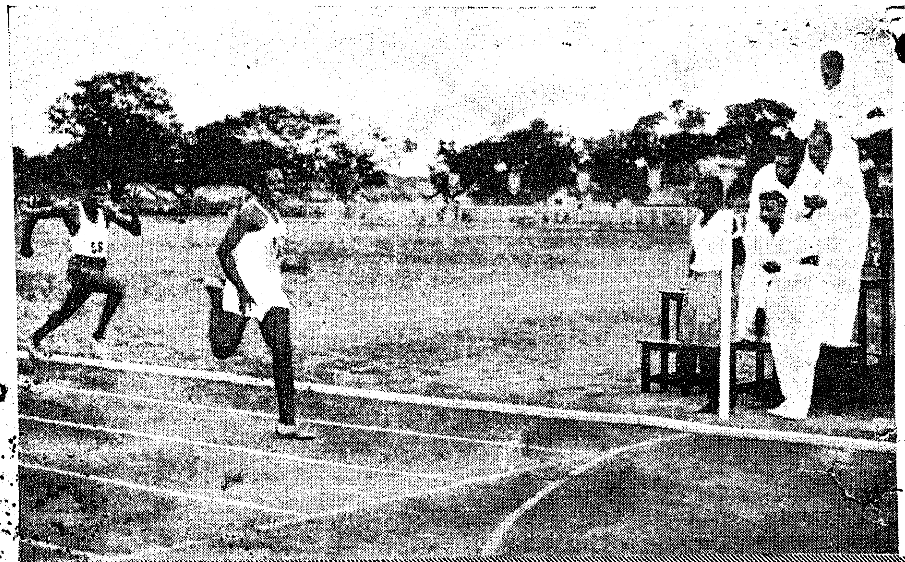
The first unit of the power station will be commissioned by April 1961 and the entire power station by about the middle of 1962.

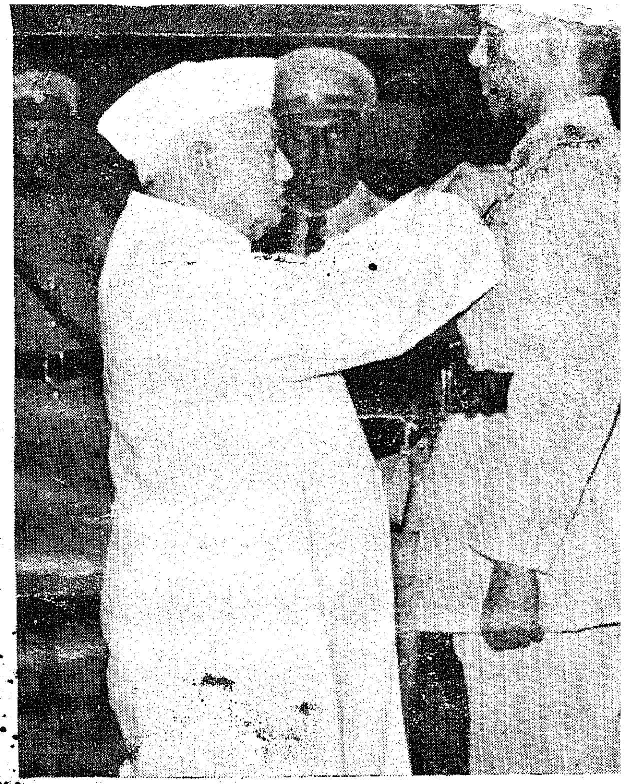
The contract for supply of plant and machinery for the power station at a cost of Rs. 12 crores was concluded with Messrs. Technoexport, Moscow, in May this year.

Earlier in March, the Neyveli Lignite Corporation had concluded a contract with the same organization for the preparation and supply of working drawings for the power house at a cost of Rs. 45 lakhs. The supply of drawings will be completed by the end of 1960.

Other schemes included in the Neyveli Lignite Project are production of nitrogenous fertilizers in the shape of urea with a fixed nitrogen content of 70,000 tons per annum and the briquetting and carbonisation of lignite to produce 380,000 tons for use in domestic and other purposes.

The Sports events connected with the Police Centenary Celebrations were held on 1st and 2nd September. The Sports were inaugurated by the Chief Minister, Sri K. Kamaraj, on 1st September 1959. The events of the second day were presided over by Sri C. Subramaniam, Minister for Finance. Srimathi Shetty, wife of the I.G. of Police, distributed the prizes.

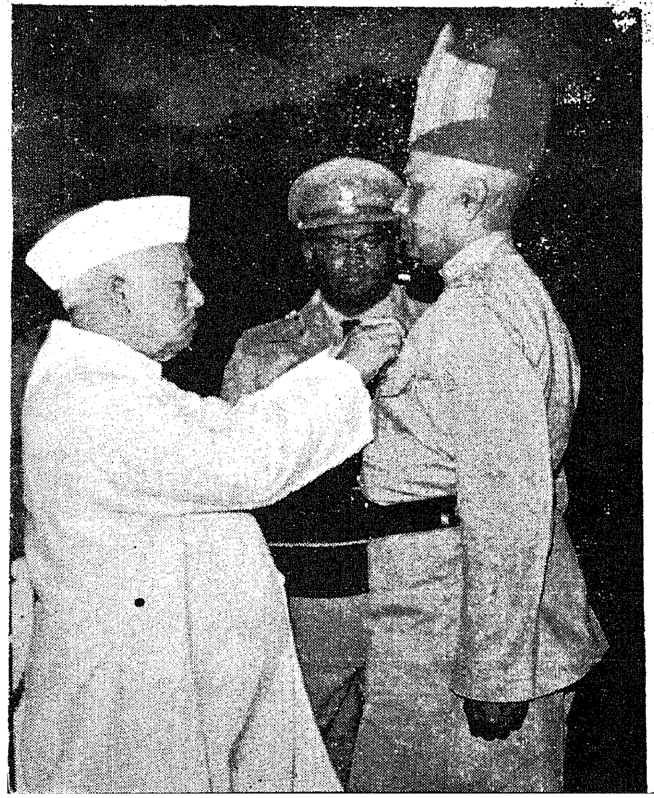


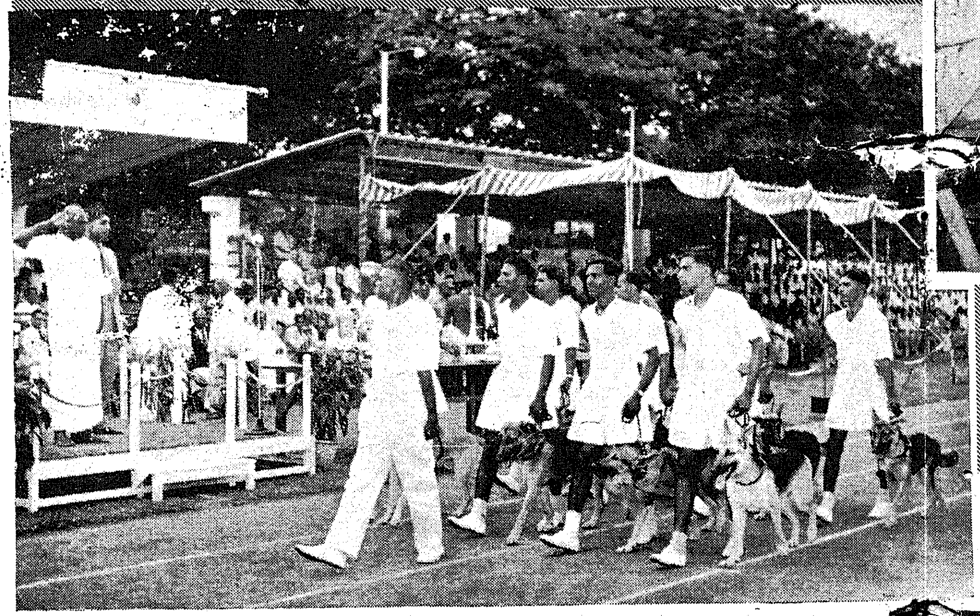


Sri S. Balakrishna Shetty, Inspector-General of Police, was awarded the President's Police and Fire Services Medal (Republic Day Award, 1959). (Below)

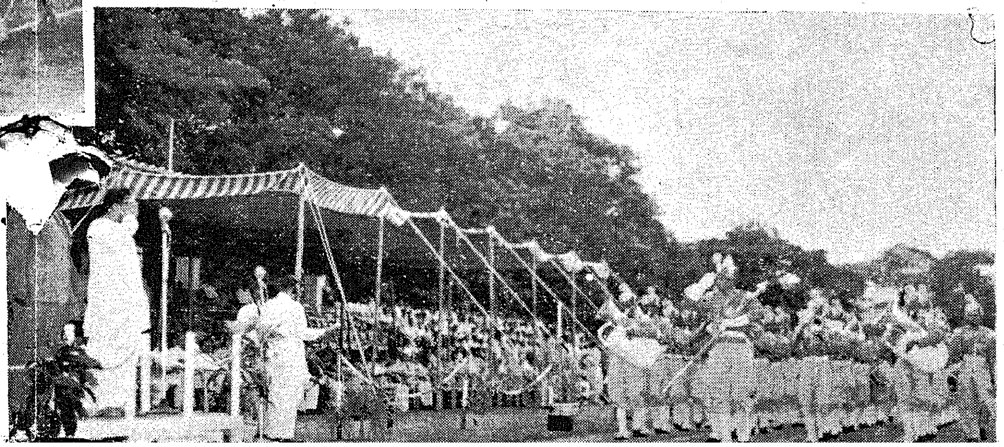
Eighteen other Officers also received Medals for meritorious service.

POLICE CENTENARY CELEBRATIONS





Medal Parade was held on 5th September, when a medal for gallantry was awarded posthumously to constable Kuttan Muthan Krishnan for outstanding sense of duty and courage displayed by him. The award was received by his widow Srimathi Lakshmi Ammal. (Top left)



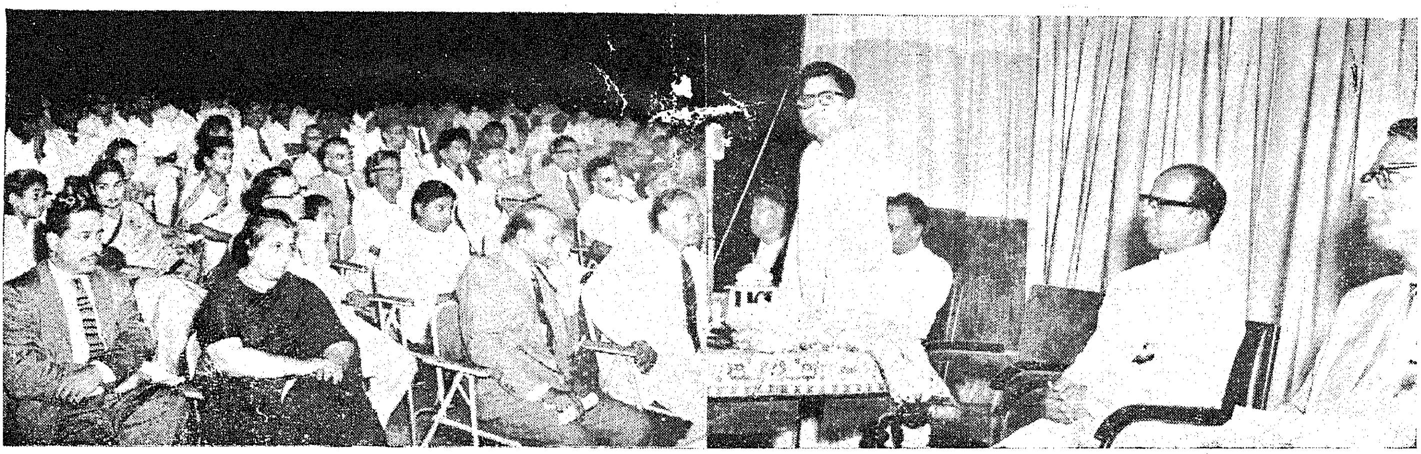
Great Strides in Technical Education

20

SRI J. G. ABRAHAM,
Director of Technical Education.

The College of Engineering, Guindy, is the oldest Engineering Institution in the country imparting both undergraduate and post-graduate courses in several branches of Engineering, with facilities for research work. The history of this College can be traced from the year 1794 when the East India Company first started a Survey School which subsequently developed into the present Engineering College. During the period of the Second Five-Year Plan, this College has expanded considerably. Under the Ghosh-Chandrakant Expansion Scheme sponsored by the Government of India, the strength of this institution has been more than doubled. At the close of the First Five-Year Plan period, the strength of this College was 125, which has since been increased to 275, including 25 seats for the new Mining Engineering course, consequent on the implementation of the various expansion schemes formulated under the Second Five-Year Plan. Post-Graduate courses in six subjects have been started in the College. Such a rapid expansion has, however, naturally resulted in a shortage of accommodation and equipment for the College. In order to meet the increased requirements for accommodation arising from the expansion of the College, a sum of Rs. 8.8 lakhs was sanctioned for the construction of additional buildings and Science Laboratories under the Ghosh-Chandrakant Scheme. An additional sum of about Rs. 2.35 lakhs was also sanctioned for the construction of buildings for Mining Engineering and the Post-Graduate course in Soil Mechanics. Even though the construction of the new buildings was originally programmed to be taken up in phased stages and completed by the end of the current Plan period, it has been possible to complete the construction practically two years ahead and also with a substantial saving to the tune of about Rs. 2 lakhs. This saving in the original cost of construction was utilized to put up additional accommodation in the first and second floor to the extent of about 18,000 square feet, that was subsequently found necessary for the increased strength. Of this area, about 5,000 square feet in the second floor is reserved for the use of T.C.M. Experts who are expected to arrive here early next year.

The additional buildings that have now been constructed at a cost of Rs. 11.15 lakhs is primarily intended to provide extra accommodation for the doubled strength of the College under the Ghosh-Chandrakant Expansion Scheme and also to meet the demand for space required for the Post-Graduate course in Soil Mechanics and Foundation Engineering introduced in this College from the last academic year and also for the Degree course in Mining Engineering. Consequent on the introduction of the Five-Year Integrated course during the current year, however, an immediate necessity to provide additional space to the extent of 30,000 square feet has been felt. Part of this additional accommodation required for the Five-Year integrated course has been temporarily arranged in the space originally intended for the Post-Graduate course in Soil Mechanics and Foundation Engineering and the Degree course in Mining Engineering by arranging to conduct these courses for the time being in the old buildings. The new Hostel block that has been constructed at a cost of about Rs. 3.50 lakhs will accommodate 120 students. The average cost of construction of the new buildings of the College works out to Rs. 12 per square feet of plinth area for each floor against the rate of Rs. 15



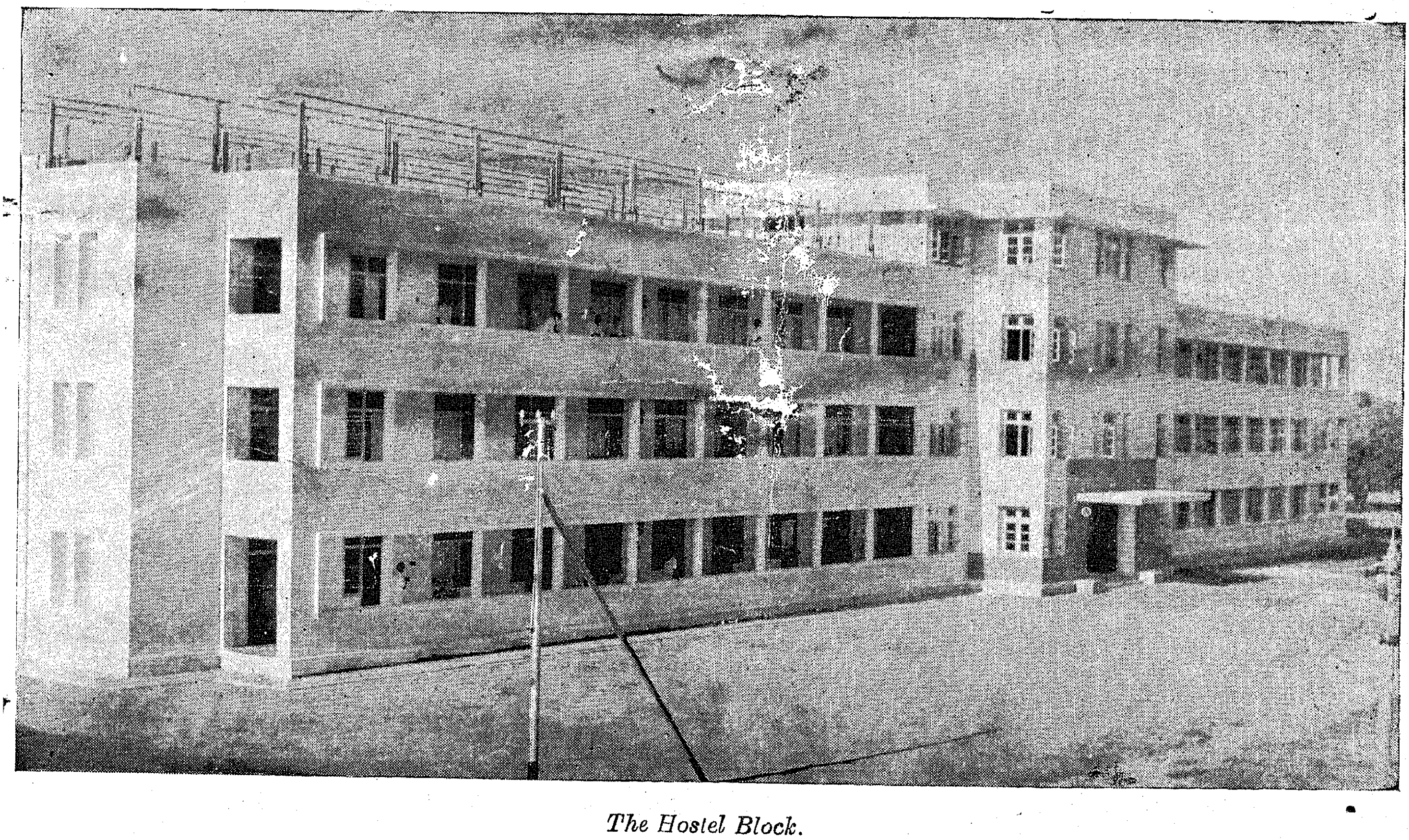
Additional blocks of the Government College of Engineering and the hostel were declared open by the Education Minister Sri C. Subramaniam.

allowed in the estimate. In the new Hostel block each student is provided with room space of 90 square feet besides another 90 square feet of space of verandah, lavatories, dining hall and recreation room, etc. The cost of providing this scale of accommodation including all amenities works out to Rs. 2,900 per student.

The University Inspection Commission which inspected this College in August last year, had stressed the need for enlarging the existing laboratories and workshops by providing the necessary extra accommodation as expeditiously as possible to meet the increased activities and on account of the doubling of the strength of the College envisaged under the various developmental schemes of the Second Five-Year Plan, in order to improve the training facilities and increase the efficiency and standard of practical work and training imparted to the students. It is needless to say that a reputed Institution like this College which is also conducting Post-Graduate courses and research work should not be allowed to suffer due to lack of accommodation and other facilities. The Department of Technical Education and the Government are, therefore, taking steps to remedy the situation and to provide the necessary extra accommodation, etc., for this expanding Institution by acquiring additional space contiguous to the College campus; the construction of the present new buildings is the first stage of the phased programme drawn up for the development of this premier College of Engineering.

So far during the current Plan period, about Rs. 3 lakhs have been spent on buildings required for this College including two hostel blocks as part of the Expansion Scheme. Further building works costing about Rs. 30 lakhs are yet to be taken up and completed before the end of the Second Five-Year Plan for the expansion of the existing laboratories and workshops and for their normal development and for the Post-Graduate course in Internal Combustion Engines, additional hostels, staff quarters, etc. During the Third Plan, it has been programmed to take up the construction of staff quarters, hostels, library and an auditorium at a cost of about Rs. 60 lakhs.

While speaking about the proposed expansion of this College, from the point of view of the efficient working and satisfactory administration and control of an Engineering College, it may be desirable to fix the maximum strength of any Engineering College as 1,000 which will include the members of the teaching staff and provide for an intake capacity of 180 students per annum for the Degree course. This desirable objective which has already been recommended to all Universities by the University Grants Commission, can be achieved by the opening of more Engineering Colleges instead of concentrating on further expansion of the existing institutions; and the Department of Technical Education is aiming towards securing this objective, consistent with our Government's progressive policy. However, the implementation



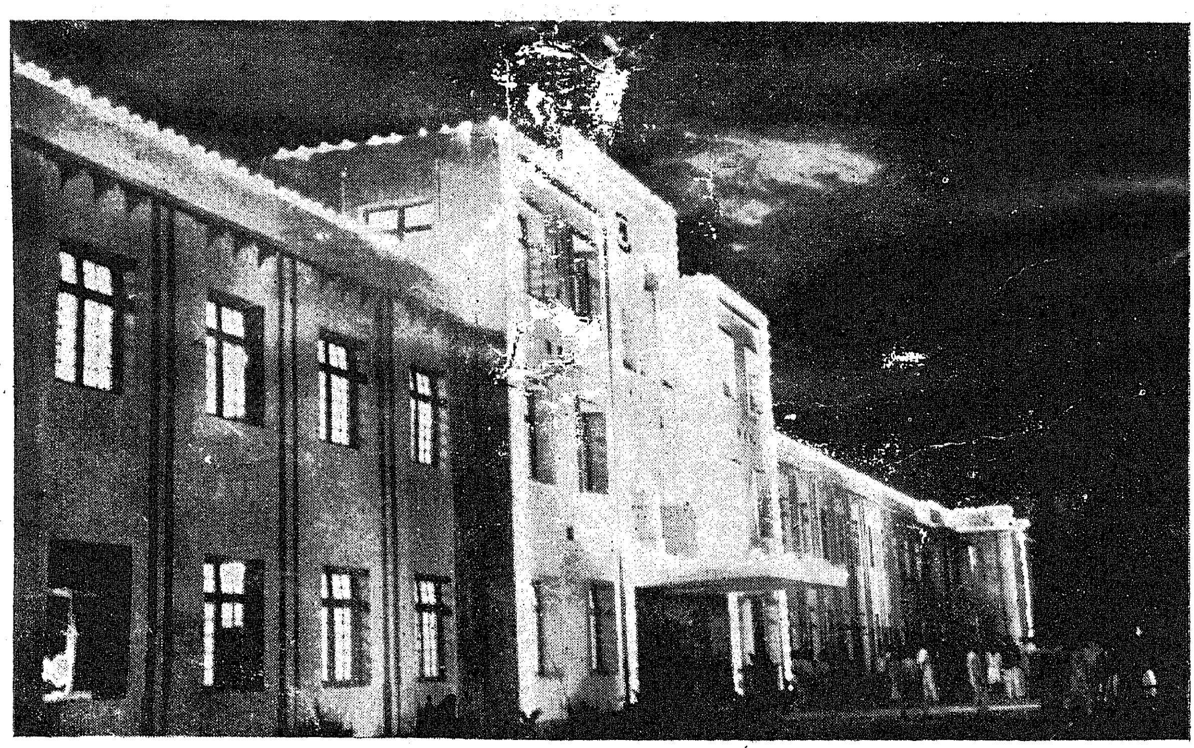
The Hostel Block.

of the present programme of the expansion and development so far as it relates to the Engineering College, Guindy, will go unimpaired.

In this connection, it should be mentioned that as Post-Graduate courses are conducted in a number of subjects in this College, it would be both necessary as well as advantageous to provide full scale research facilities to the students in order to infuse a real spirit of creative thinking in them. This Department is, therefore, exploring the possibility of opening an up-to-date and well equiped Research Station to serve the various departments of Government and also the Industries in this State and to enable the Post-Graduate students of the Engineering College to undertake intensive research work there—both fundamental and applied and of practical value to the departments and the Industries alike.

A brief note on the newly formed Deparment of Technical Education which is now directly responsible for the co-ordination and development of Technical Institutions in this State will not be out of place here. I may say that the formation of a separate Directorate of Technical Education early in October 1957, is an important milestone on the road of progress of Technical Education in Madras State. The question of re-organizing the administration of Technical Education at all levels in this State was under the active consideration of the Government since 1950, and on the recommendations of the Co-ordinating Committee of the All-India Council for Technical Education constituted by the Government of India, it was decided to form the present Directorate of Technical Education in order to co-ordinate the facilities, plan and execute schemes for the further development and progress of Technical Education in this State to meet the increasing demands for highly qualified technical personnel for all our developmental plans and industries. Accordingly, a State Board of Technical Education and Training with the Hon'ble Minister for Finance and Education as Chairman and a Directorate with the Chief Engineer, P.W.D. (General), as the Ex-officio Director, one Deputy Director, one Assistant Director and other nucleus staff to start with, were created in October 1957. The Directorate started functioning with effect from 14th October 1957 by taking over the control and supervision of all the Engineering Colleges and Polytechnics in the State.

Although it is not my intention now to detail the various activities undertaken by the Directorate during the past 22 months, I may just mention that since the formation of the Directorate, there has been a rapid expansion and development of technical institution in this State. Three additional Post-Graduate courses, two in the College of Engineering, Guindy, and one in the P.S.G. College of Technology, Coimbatore, have been introduced. Seven new Polytechnics have been started bringing the total number of Polytechnics in the State to 19. The Sandwhich course in Mechanical Engineering has been introduced in the Central Polytechnic, Madras, from this year. The original State Plan provision for Technical Education was revised from Rs. 121 lakhs to Rs. 199 lakhs. The total expenditure incurred since the formation of the Directorate is about Rs. 87 lakhs up to



The College Block.

the end of March 1959 against the total expenditure of about Rs. 27 lakhs from the beginning of the Second Plan to the date of formation of the Directorate. The expenditure up to end of 1959–60 is expected to be Rs. 162 lakhs leaving only about Rs. 37 lakhs for the final year of the plan.

Such speedy implementation of the various developmental schemes relating to Technical Education has been made possible because the Chief Engineer, P.W.D. (General), functions also as the Ex-officio Director of Technical Education, and the Deputy Director of Technical Education is also functioning as the Joint Superintending Engineer, P.W.D., in charge of building works relating to the Department of Technical Education. The latter arrangement particularly was brought about on the express wishes of our Hon'ble Minister for Finance and Education. These arrangements have proved to be very satisfactory and successful, because it has greatly facilitated the speedy implementation of the various construction programmes in accordance with the exact requirements of this Department and the Institutions alike.

The officers of the Technical Education and Public Works Departments have been jointly striving their utmost for the development of Technical Education in this State by implementing the several schemes efficiently and quickly. It has also been possible to obtain the required staff for the Technical Institutions from the Public Works Department, Highways and Electricity Departments, with greater facility and ease and the great advantage that could be derived from the present arrangement which is very essential in Technical Education is that, apart from that of easing the staff position in Colleges, necessary practical bias can also be given to the instructions imparted in the Engineering Colleges and Polytechnics in this State. At present, several officers belonging to the Executive line of the Public Works, Highways and Electricity Departments have been taken on deputation for teaching work in this Technical Institution. The desirability of deputing some selected members of the teaching staff to work in the 'field' or on the executive side for some time and thereby obtain the necessary practical experience, is also being separately examined by this Directorate. Such an interchange of teaching and executive staff will be of real advantage to both the teaching institutions (Colleges, etc.) and the executive Departments like the Public Works, etc. It is, however, not our intention to replace the teaching staff in Colleges, etc., by members of the executive (field) staff of the Public Works Department to any extent as a permanent measure, as it is realized that each institution must have its own full complement of regular staff.

The development of technical education is proposed to be stepped up during the Third Plan period by increasing the present plan provision by about 75 per cent so far as the State share of expenditure is concerned. We anticipate a shortage of technical personnel at the end of the Second Plan period, to the extent of about 380 Engineers. During the Fourth Plan period, the shortage is expected to go up to 960 Engineers and 540 Diploma holders per year and in order to make good such a shortage, provision must be made for starting more institutions, etc., or plan the expansion of the Training Institutions in the Third Plan period itself. In other words, to meet this shortage, some more Engineering Colleges and Polytechnics may have to be started during the Third Plan period besides exploring the possibilities of expanding the training facilities in the Institutions established during the Second Plan period.

I may also add that the question of revising the scales of pay of the teaching staff in the Engineering Colleges with reference to the recommendations of the All-India Council for Technical Education in order to attract candidates of the right calibre for the teaching profession is under the active consideration of this Directorate and the State Government.

Under the Third Five-Year Plan, we have an ambitious programme for this State in common with other States in India, for the co-ordinated development of Technical Education and increasing the out-put of technical man-power consistent with the rapid industrialization of the country. I am quite confident that the officers and staff of both the Technical Education and Public Works Departments will strive together actively and whole-heartedly to achieve this objective and in pursuance of this common aim, will dedicate themselves to the service of the country with efficiency, integrity, and devotion to duty and contribute their best for the prosperity and development of the State and our great nation as a whole.

Teachers' Pension

The Government have amended the Teachers' Pension Rules to provide (1) that breaks in service between the date of completion of the age of 55 and the crucial date (1st April 1955 to 1st April 1958, as the case may be) or thereafter do not affect the eligibility for pension of teachers whose age of retirement is 55 and who, having reached that age prior to the crucial date were re-employed in the same or some other school and were actually in service on the crucial date. The service put in by the teachers during the period of re-employment upto the age of 60 years will be counted for pension; and (2) that teachers whose age of superannuation is 60 years will be entitled to pension even if they had retired before the crucial date (1st April 1955 or 1st April 1958, as the case may be) provided that they were re-employed in the same or some other school, with or without breaks in service and were actually in service on the crucial date. The intention of the Government is that a trained teacher who, having attained the age of compulsory retirement prior to 1st April 1955 or 1st April 1958, as the case may be, was actually in service in the same or in any other school on 1st April 1955 or 1st April 1958, as the case may be, shall be eligible for pension subject to the condition that service put in by him beyond the date on which he attained the age of 60 will not be reckoned for purposes of pension.

Scientific Basis of TREE PLANTING

Sri C. A. R. BADHRAN, Chief Conservator of Forests.

The appeal of trees is universal. They attract and serve one and all, men and woman, young and old, rich and poor, ascetic and man-of-the-world, busy townspeople and leisurely rural folk. They appear irresistibly to the body, the mind and the spirit, in other words to Human Nature. There is no feature of human activity, material or moral, in art or in science, in which trees do not play a vital role. Trees are among the best of Nature's chosen gifts to man. Yet, he takes them so much for granted that he has constantly to be reminded that they too live and grow and have to be cared for.

Everywhere in the world, from ancient times, Kings and Rulers got trees planted along roadsides, in parks and in gardens. In the modern world, ceremonial tree planting began in America in 1872 when Governor Morton initiated Arbor days in Nebraska. About the same time, in 1873, Dr. Brandis, our first Inspector-General of Forests visualized the role of tree-lands in Indian village economy. Twenty years later, the same was emphasised by Dr. Veolcker in his report on the improvement of Indian Agriculture. Early in this century, poet Rabindranath initiated his " Brikshaarohan " in Viswa Bharathi and extended tree planting to the adjoining rural areas as well. But it was not till 1950, when " Vanamahotsava " was inagurated, that tree-planting began to receive attention all over India. In January 1956, the Indian Science Congress (Botany Section) conducted a Symposium on ' Vanamahotsava ', when the scientific aspects of tree planting were discussed and elucidated. At the end of the first decade of this campaign, it would be but appropriate to examine and reiterate the scientific basis of tree-planting, even apart from its cultural, historical or festival aspects.

A basis consideration has been elaborately stated by Ruskin, when he observed that " this earth belongs as much to those who come after us as it does to us and therefore, we have no right to indulge in such acts as would involve them in penalties or deprive them of the benefits which are their natural inheritance. In other words, we must leave the earth in as good a condition as we found it, even if we could not improve it in any way." One of the first of such acts, following inevitably in the high density and development of human population is the stripping off vegetation with its consequent undesirable effects for posterity. Plannel or systematic tree-planting alone can intervene to restore the balance, at least to some extent. Such planting need not always involve land set apart for the purpose, but can be, as advocated recently by Dr. Punjabrao Deshmukh, advantageously extended " even in this age of industrialization and urbanisation, to every residential colony, every factory area, every human dwelling, every waterway, every highway, every patch of cultivation and every playground, village common or open field ". In other words, all sites best suited for tree crops only or at least all sites not suited or required for other uses, must be urgently utilized for raising trees and tree crops, in the interest of posterity.

The importance of tree-cover to a Nation's physical, social and economic welfare cannot be over-emphasized. Tree-planting is the basis of forestry and horticulture; and it can influence profoundly agriculture and sericulture. It plays no mean role in the conservation of soil and water resources. It serves to ameliorate the physical and climatic conditions of the locality. Its valuable function in the control of erosion, floods and deserts is now fully recognized. It can serve to augment the production of food, fuel and fodder. Tree-pl has a facific place in any scheme of proper land-use; also in the production of additional wealth. In scientific tree-planting can contribute considerably to the well-being of the people.

The regular planting of trees can be developed as an active measure in the defence of the soil. Extensive tree-planting along canals (as has been done in the Uttar Pradesh) can serve to stabilize their banks. The planting of trees in shelter belts and wind breaks especially in arid areas, not only helps to protect the agricultural crops from the dessicating winds common in such area but also leads to an actual increase in yield in spike of some of the land itself having to be set apart for these tree lines. Shelter belts 30 tall can be expected to protect the adjoining fields over a depth 20 times that figure (i.e.) for 600 feet on the leeward side. Even with five per cent of agricultural land diverted to tree crops, an actual increase in agricultural yield (up to 1[illegible] cent) can be secured as a result of correct farm forestry practices. Thus, trees (and vegetation generally) play an important part in soil stabilization, in conserving soil moisture, in regulating stream flow and in enhancing soil fertility. •

That tree-planting [illegible] play a significant part in increasing the fuel, fodder and food resources of a locality will stand repetition. By judicious but complete use of all available spare sites for tree-planting, any community can become self-sufficient with [illegible] its fuel requirements, can provide welcome additions and variation in the fodder for its cattle and [illegible] supplement, in no small measure its own food resources. [illegible] of our common trees like Jamun, Mango, Jack, Sissoo and Neem serve in more ways than [illegible] yielding timber, fuel, fodder and fruit.

But not every tree will flourish in every site nor can any tree be planted successfully anywhere. In other words, each tree species has [illegible] own characteristics of habit and habitat. The choise of species is, therefore, a matter of first importance and would be governed by various scientific considerations. The species should be suitable with reference to climate and soil of the locality. Some trees do well under moist tropical (Teak) conditions, others equally so in dry tropical (sandal) and yet others in moist temperate conditions (Bluegum). Again, most trees do well on loamy soils; but only selected species can serve on other soils, for example, Babul will grow in clayey or heavy soils; Jamun in swampy conditions; Neem in heavy and even in saline soils; and cashew on sandy and derelict soils. Further, the species should not be delicate in its requirements but easy to plant and to establish; it should be capable of rapid growth and natural resistance to damage (especially in the early stages); it should preferably need minimum after-care, particularly regarding watering.

The choice of species will also be influenced by the specific objectives of tree-planting in any particular instance, subject of course to suitability. Around dwellings, fruit trees and ornamental trees may receive prior attention. Barren wastes and common grounds in villages could best be planted with fuel trees, with [illegible] quality sites supporting even timber trees. Along main highways, shade would be the major objective of [illegible] planting; but street margins in towns are preferably planted with trees ornamental in foliage and in flower; and both shade and ornamental varieties will have a place in gardens and parks.

Next in importance is the planting material itself. In some cases, direct sowing of seed affords good results. In most cases, however, there are distinct advantages in raising young plants in the nursery and preparing them in various ways before planting out. For individual tree-planting, it is often best that the nursery seedling is transferred into a container (a clay pot, bamboo basket, bamboo tube, etc.) in the first instance. This enables the seedling to be installed in its permanent site with the least disturbance of its root system. Thus, organized tree-planting would require large quantities of seed, transplants and other planting [illegible] according to the locality and the species chosen. For the work to be placed on a scientific and economic footing, seed would be collected only against actual needs but at the right time and stored suitably or utilized in nurseries till planting time.

The time of planting can have a lasting effect on the plant. In every locality, a study of the seasonal variations would indicate a most suitable season for tree-planting. In fact while July 1st has been adopted as the date each year for commencement of ceremonial planting, regular planting activities have to be timed only with reference to local conditions. For instance, in areas that benefit from the south-west monsoon, planting may begin with the onset of rains even as early as June, while in areas which depend on the North-East monsoon planting may have to be delayed till September-October of the year.

Even more important is the tending and after-care given to the planted seedling. For instance, casuarina must be regularly watered till it is established. So too all roadside or avenue or garden plants. Protection from goats and cattle must be ensured in all cases.

A correct knowledge of the scientific basis of tree-planting, whether it be in respect of choice of species, seed collection, nursery practices, planting techniques, or after-care, is therefore essential if Vanamahotsava is to be practised extensively, successfully, economically and to the lasting advantage of the people.

It should be apparent from the above that tree-planting has emerged as a scientific enterprise but one in which every one can participate equally. Besides, the planting of trees is an act of virtue, in that it is selfless, as trees take long to grow and can scarcely be of service to him that plants them. So, the practice should be developed from very early life. Let each small school child be given a sapling to plant in a suitable site. Let the child learn to care for it, to water it regularly, to help it to grow undisturbed and to protect it—so that the tree may grow with the child, tall and strong and active, and inspire the child throughout its life.

College Text-Books in Tamil— Authors to be Chosen by Competition

The College Tamil Committee has announced a competition for chosing competent authors for translating text-books for main subjects and writing up of text-books for minor subjects relating to the three-year B.A. Degree course, the details of which have been published in page 511 of Part I-B of the *Fort St. George Gazette,* dated 16th September 1959. The authors chosen on the basis of the best specimens will be entrusted with work of writing or translating the text-books and on completion will be paid remuneration ranging from Rs. 750 to Rs. 2,000 depending upon the subject.

Any person who has had teaching experience in any recognised college or recognised University, is eligible to compete. He should have had teaching experience of at least two years in the subject in respect of which he is competing. Government servants with necessary qualifications are also eligible to compete. The competing scripts must be sent to the Secretary, College Tamil Committee, Education and Public Health Department, Fort St. George, Madras-9, by registered post to reach before 15th October, 1959.

THE ATOM AIDS AGRICULTURE

A circular enclosure, somewhat reminiscent of a Roman amphitheatre, has recently come up in an isolated corner of the quiet, extensive farmland of the Indian Agricultural Research Institute in New Delhi. Contrasting strangely with the lush greenery of fields and lawns, colourful flowerbeds and trees in the vicinity, the brick-and-concrete wall, 3 feet thick and 12 feet high, has puzzled many a visitor.

"Is the serene and dignified air of India's top agricultural research academy to reverberate with the noise of boisterous crowds cheering gladiatorial feats?" they may well ask.

The answer is that no human being, much less a crowd, would be allowed within the enclosure when Nature's great gladiator—the Atom—performs the silent feat of "mutating" living organisms.

Workers in the Indian Agricultural Research Institute have given the name "Gamma Garden" to the walled enclosure 200 feet in diameter; for, in its geometric centre has been installed a high-energy Gamma Ray source.

The source of radiation is Cobalt-60, 200 curies in strength, enclosed in a heavy lead container. A remote control mechanism, built into an operating cabin outside the only entry to the enclosure, enable the radio-active cobalt to be raised or lowered from its container.

What looks like a heavy surrounding fortification is a necessary safeguard to prevent unwary trespassers from being exposed to the radiations when the focal point is "alive". The switch gear is so designed that when the circuit is closed, the double-wall steel gate at the entrance automatically closes, and none can enter the arena.

"Gamma Garden" is India's first large-scale field irradiation facility to go into operation, the object being to study the effect of varied doses of atomic radiation on plants under controlled conditions.

The land around the Cobalt-60 suorce is divided into sectors, in each of which will be grown different types of crop plants or fruit trees on which experimentation is proposed. Some sectors however will receive pot-plants from research institutions outside Delhi. After Gamma ray treatment these specimens will be sent back to their laboratories for further study.

Radio Activity

The phenomenon of radio-active elements has been studied by scientists ever since the discovery of uranium at the close of the last century. In 1932 came an important discovery, enabling the artificial production of radio-active substances. This was followed by the artificial preparation of radio-active "brothers" of many natural elements—called isotopes—which possess the same chemical properties as the stable element but have the additional propensity of atomic disintegration, which is called radio-activity.

The outcome of all this knowledge has proved a mixed blessing to the world. On the one hand we find the development of devastating atomic bombs; on the other, the growing appreciation of the peaceful applications of Atomic Energy.

To-day, mankind generally is eagerly awaiting material and physical betterment through the latter process, and one of the happiest discoveries has been usefulness of atomic energy in improving and increasing agricultural production.

Early Experiments at I.A.R.I.

Gamma Garden

As early as 1949 experiments began at the Indian Agricultural Research Institute, New Delhi, to test the reported fertilising value of radio-active soil-stimulants. The United State Atomic Energy Commission also financed extensive trials abroad on various crops in different soils. These experiments however proved that low-level radio-active radiation has no stimulating effect on plant growth.

The next significant line of research conducted by the Indian Agricultural Research Institute was based mainly on the fact that the characteristic properties of radio-active substances make it possible to detect them and trace their movement in plant tissues and in the soil. The use of radio isotopes as "tracers" has added a new dimension to research in the study of various biological problems where the purpose is not to achieve a particular effect, but to further our understanding of the complex physical, chemical and biological processes involved in the production or utilisation of agricultural products.

A well-equipped radio-tracer laboratory was established at the Institute where studies on soil fertility and crop nutrition have been in progress for some years.

There have been some noteworthy findings. One of these relates to the utilisation of phosphate fertiliser in paddy cultivation, establishing the fact that the maximum uptake of phosphorus by the paddy plant occurs when fertiliser is applied at the surface. Another is that there is little movement of phosphorus in soil, the usual range being from one-eighth inch to 2 inches, leading to a reappraisal of the merits of different methods of fertiliser application. A test for estimating the available phosphorus in soil has also been standardized.

In 1955 work was started by the Division of Botany of the Indian Agricultural Research Institution under the Institute's Second Five-Year Plan programme, on

research in plant breeding with the use of atomic radiations. Encouraged by the results obtained, the Institute now proposes to intensify research in this field, the "Gamma Garden" being a major step in this direction.

... is now generally known that higher forms of ... are more sensitive to the effects of atomic radiation ...r lower forms. Fortunately, most plants can tolerate a very high level of external radiation continuously withou... visible damage.

Studies have shown that the ionising radiations emitted by radio-active substances are capable of inducing heritable changes called "Mutations" in the fundamental genetical constituents of plants.

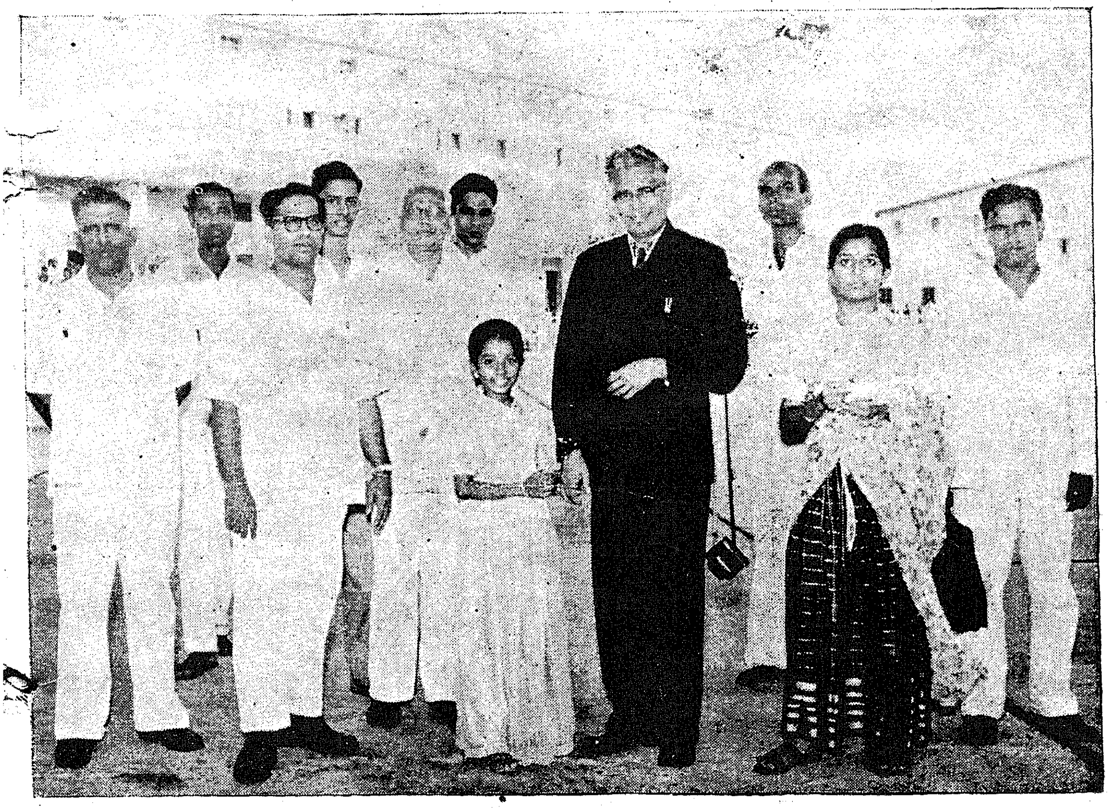
Important results already achieved by the Botany Division include the evolution of fully awned, or "bearded', specimens of wheat with a stiffer straw and greater resistance to rust. These mutations have also given yields which are in several instances 5 to 20 per cent higher than the parent strains. Seeds of these radiation-induced types are being multiplied for further trials and release for general cultivation.

Atomic energy has also been employed to improve the appearance of the homely tomato! Gone is the touch of green at the top. It is now red all over.

Genetists at the Indian Agricultural Research Institute are also using radiation to bring about successful "crosses" between distantly related plant species.

Technical co-operation of the Atomic Energy Commission has been available to the Indian Agricultural Research Institute at all stages in the establishment of the Gamma field. The Atomic Energy Establishment at Trombay has played an important part in equipping the field. The design and fabrication of the remote control mechanism and switch gear operating the Cobalt-60 energy source has been carried out at Trombay. The source itself was manufactured in Canada in the famous Chalk River Reactor, a prototype of which is now being set up at Bombay by mutual co-operation between the Atomic Energy Commissions of Canada and India.

The plant-breeder so far dependent on the variability found in Nature and spontaneous mutations occurring at variable and infrequent intervals can now utilize the Gamma Garden to carry on experiments aimed at reproducing what happens in Nature but at a vastly faster pace and under controlled conditions. This man-made evolution of crop plants promises to be an important tool for the scientists in meeting the challenge posed by the ever-growing number of people who need to be fed.



Sri R. Venkataraman, Minister for, Industries left Madras en route to New York to take part as the delegate of India in the U.N. Assembly Session. Photo shows the Minister taking leave of his friends at the air port.

The Twin Canals of the Cauvery

SRI K. V. EKAMBARAM, I.S.E.,
Chief Engineer for Irrigation.

The Pullambadi Canal Scheme.

Lalgudi and Udayarapalayam taluks of Tiruchirappalli district have been without any irrigation facilities for long, though a large alluvial tract, suited for wet cultivation is available. Only a few rainfed tanks cater to the needs of some extends of wet cultivation. The Peruvalai channel taking-off from Cauvery river above Upper Anicut stops dead at Vellarur village. The carrying capacity of this channel and the storage capacity of the rain-fed tanks due to their limited catchments do not permit any extension of irrigation under them. A new channel has, therefore, been excavated to supply waters to the area, to supplement the storage in tanks and to command new areas under direct irrigation.

The scheme as finally decided upon, is to provide irrigation facilities to an extent of 13,283 acres under tanks and a small area of 8,831 acres under direct irrigation.

A final detailed scheme was prepared, after examination of several alternatives. The Project, as new carried out, was sanctioned for execution by the Government of Madras in their G.O. Ms. No. 3103, P.W., dated 11th July 1956. The total estimated cost of the approved scheme is Rs. 156.52 lakhs including direct and indirect charges.

The twin schemes were inaugurated by the Chief Minister.

The Pullambadi main canal takes off above the Upper Anicut from the left side and at the infall of the Ayyar into Cauvery. This is just above the head of the visiting Peruvalai channel and just below the off-take of Panguni channel. As per the final scheme now executed, an extent of 8,831 acres of direct and 13,283 acres of indirect ayacut or a total area of 22,114 acres is proposed to be irrigated by the new canal. An additional yield of 9,547 tons of rice will be realized by the completion of this Scheme.

The Pullambadi Main Canal excavated below the head sluice runs nearly parallel to and at a short distance from the existing Peruvalai Channel for a length of 25 miles down to the Nandiar River Crossing. There is no irrigation in this reach. The alignment in this section has been made in such a way as built up areas, house-sites, etc., are avoided. Only in Manachanallur village, the canal runs just behind the backyards of houses. In this reach the canal is lined with cement concrete for about 2 furlongs length at an approximate cost of 1.08 lakhs.

There are as many as 29 existing tanks in this area which will receive supplies through this new canal. Out of these, 18 tanks are improved to have sufficient storage for their ayacuts with extensions proposed under some of them. Eleven tanks which are in fair condition are proposed to be made use of, as they a

Three new tanks have also been formed across important drainage courses at their crossing with the main canal. These are Man Odai, Andi Odai and Vettakudi Odai tanks.

The new tanks were formed with earthmoving machinery.

The Villpuram-Tiruchi Chord line of the Southern Railway crosses this Pullambadi Canal at mile 28—6—495 of the Main Canal and a new railway bridge costing Rs. 79,000 has been executed by the Southern Railway administration for the Public Works Department.

Strenuous efforts were made and no pains were spared to push through the works ahead of target dates and programmes. Adherence to quality and specification was insisted upon through out in spite of the speed aimed at and attained. Roughly 15,000 people on an average were on the work per day, though the works have been completed in a major portion of the canal, it has now been decided to let in water into this canal today, up to the first 30 miles of the main canal, to irrigate an ayacut of about 5,000 across, and for the rest of the 24 miles length of canal by the end of December 1959. But the three major tanks newly

constructed and completed across the Andi Odai, Man Odai, and Vettakudi Odai will be receiving water from their own catchments in the ensuing North East Monsoon rains and this water can easily irrigate about 1,800 acres during the next irrigation season of 59.

... to the spontaneous co-operation and tireless work of the thousands of skilled and unskilled labourers and the strenuous and co-ordinated efforts of the officers and staff of the Department, the first stage of the Project has been completed in all respects for ahead of the time fixed for the completion of the Second Five-Year Plan schemes and we are thus able to allow the people of the area realize the fruits out of the completed portions of the canal and works thereon.

The New Kattalai High Level Canal Scheme.

The uplands of Tiruchi and Tanjore taluks, lying south of Cauvery river, have had no irrigation facilities except for a small belt of land under the existing Kattalai High Level Channel tail end up to Ariyar and Uyyakondan Channel. The people of this area were pressing the Government to provide irrigation facilities from the Cauvery river.

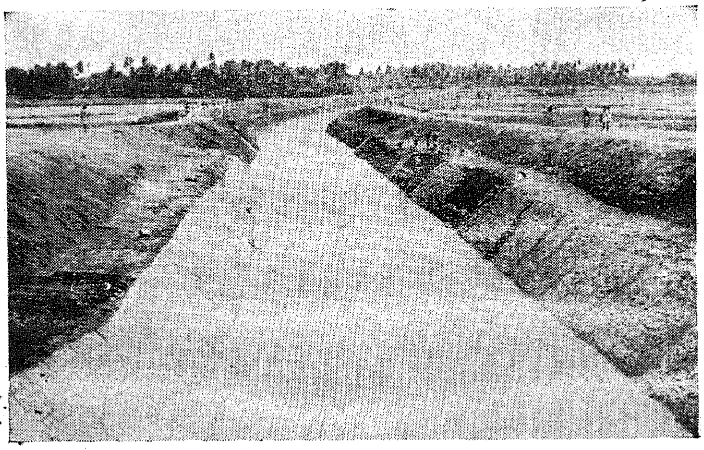
Several alternatives were considered and one of them was for taking off a channel from the right bank of the Cauvery river at about 1½ miles above Kattalai Bed regulator and running it on a higher contour than the existing Kattalai High Level Channel for a length of 40 miles down to Ariyar and 25 miles beyond it with a reservoir constructed across Ariyar. A second alternative was to remodel the full length of 38½ miles of the existing Kattalai High Level Channel to carry the increased discharge required for the existing and the proposed new ayacut and extend this channel for 25 miles beyond Ariyar and also construct smaller reservoir across Koraiyar and Kattar. The third alternative was to have the off-take of the new channel just above the head of the leading channel for the South Bank Canal, above the Kattalai High Bed Regulator and run it parallel to the existing Kattalai Level Channel with a common bank between them down to Ariyar and to take the channel beyond Ariyar down to Theneripatti vari for a length of about 28 miles 6 furlongs for irrigating 20,650 acres in the first stage and 38,650 acres in the second stage up to Vallam. The third alternative has been finally adopted.

The scheme as finally decided upon, is for providing irrigation facilities to an extent of 12,000 acres under tanks and a small area of 8,628 acres under direct irrigation.

The scheme was sanctioned for execution by the Government in G.O. Ms. No. 2913, P.W., dated 22nd June 1956, and after preliminaries the actual execution on the scheme was inaugurated at this very place on 17th August 1957, by the Chief Minister himself.

The present scheme comprises—

The construction of a head sluice just to the right of the off-take of the existing leading channel of the South Bank Canal above the Kattalai Bed Regulator



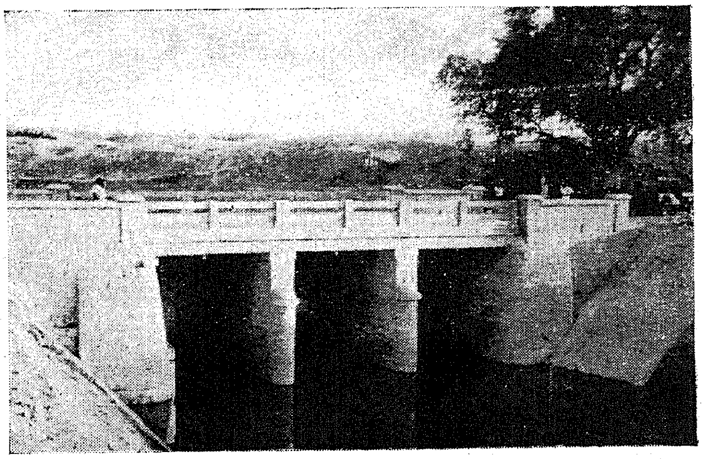
Pullambadi Canal.

across the river Cauvery, with 4 vents of 8 feet 6 inches by 9 feet and with sill at 317.45 capable of discharging about 1,170 cusecs.

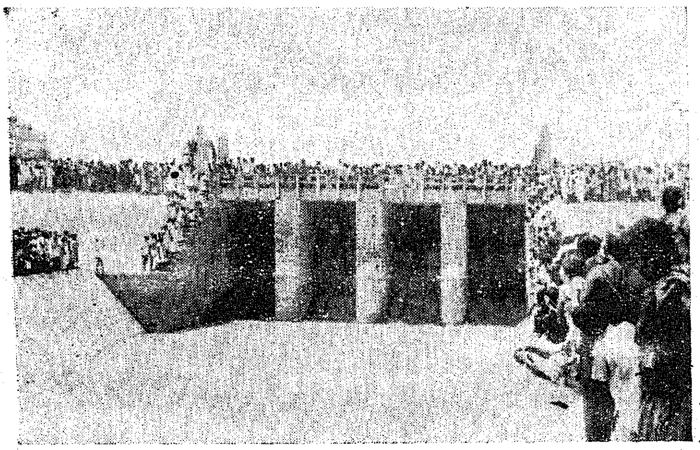
The excavation of a canal from the Head sluice for a length of 86 miles for irrigating a total ayacut of 20,622 acres of which 12,000 acres are under tanks and 8,622 acres are under direction irrigation, from branch channels. The canal has been designed to carry 1,064 cusecs for both tank irrigation and direct irrigation combined.

Supplementing the storage to the existing 119 tanks, 57 in Tiruchi and 62 in Tanjore taluks, to serve an ayacut of 12,000 acres.

Alignment of canal.—The new main canal is aligned parallel to, and close to the existing Kattalai High level channel down to Ariyar crossing. In this length of 40 miles, the first reach, there is no irrigation the canal being close to the existing Kattalai High Level Canal with a common bank between them. The second reach will be 24 miles long up to Navalapattu village and will irrigate 5,658 acres under tanks and 8,622 acres directly under the main canal. The third reach



New Kattalai Canal.



Pullambadi.

extending 22 miles beyond will irrigate 6,342 acres under tanks and will tail into the Pidari Eri. The existing and proposed ayacut will be 5,086 acres and 11,055 acres in Tiruchirappalli taulk and 3,637 acres and 844 acres respectively in Tanjore taluk.

The total cost inclusive of direct and indirect charges is Rs. 172.99 lakhs and an additional yield of 7,468 tons of rice will be realized.

It is proposed to let in water into the canal up to mile 42|7 only, as railway bridge at mile 43|1,38 and some more works below are yet to be completed. Up to this point it is expected to irrigate about 4,000 acres. The remaining length of canal is expected to be opened for supply by the end of December 1959.

The excavation of the Canal has been done both by manual labour and machinery combining the operation judicially. It is only where it was absolutely necessary to utilize machinery and where it was consider[illegible] beneficial and advantageous, has work by machinery been resorted to as in the case of embankment reaches of the canal where special consolidation and utmost care had to be bestowed. Wherever there was shortage of labour, in order not to miss the best working season and available resources, manual labour was imported from far off districts like Kanyakumari, Ramanathapuram, Salem, etc. All efforts were taken and no pains were spared to see that the works were pushed ahead well in advance of the target date, working night and day, but at the same time with a sharp eye on the quality of the work, etc. Nearly 15,000 labourers on an average were employed on the work per day.

Due to untiring efforts on the part of the thousands of labourers both skilled and unskilled alike, and the officers and subordinate of the department the first stage of the scheme up to the mile 42|7 has been completed well ahead of the Second Five-Year Plan period and we are happly to say that we are already bringing into beneficial use the canal and works thereon already completed.

(*Continued from page* 2)

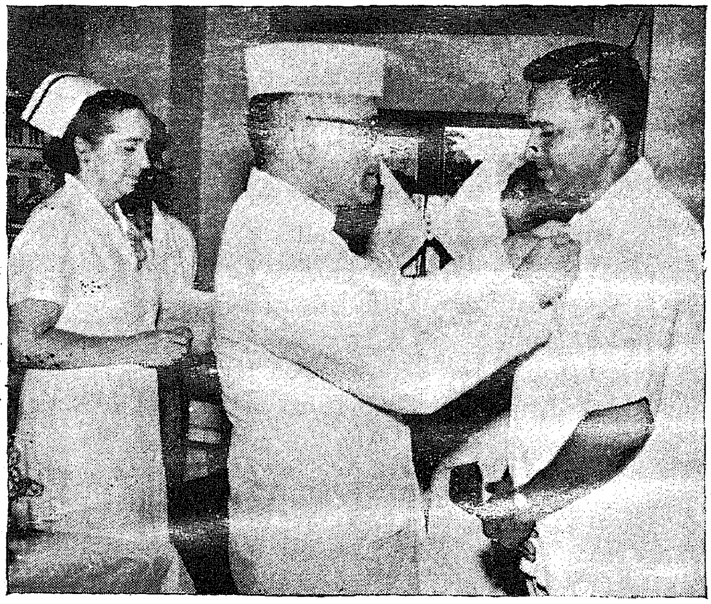
Sampathidan, Shramdan and Santhi Sena. All these when applied to life will mean the dawn of a new era. Gandhiji has shown to the war weary and violence fidden world a new way in politics by forging the weapon of non-violent non-co-operation. Vinobaji has helped to secure freedom and equality " even " unto the last in the economic world through his formulation of the principle of non-violent non-possession. In response to his call more than 80,000 acres of land has been donated in Bhoodan and 230 villages have been offered in Gramdan in Madras State alone. The work of rebuilding the structural patterns and reorganizing the village life is in progress. Our leaders though aware of the problems in this approach, know the immense potentialities in this Movement and have given it their full support. With the Co-operation of all the political parties the Government of Madras passed an Act to facilitate the donation of lands for the Bhoodan Yagna and the transfer and settlement of such lands in this State. This is a permissible legislation. This Act enables the Gramdan villages to live a life of sharing. These villages have the freedom to mould their own economic and social life.

Under the Act, a Board is constituted to discharge the functions of Bhoodan Yagna on behalf of Shri Vinobaji. A large majority of the Gramdan villages are in Madurai district. Batlagundu firka tops the list by contributing 34 out of its 83 villages. Ten of these villages have registered themselves as Sarvodaya Co-operative Societies with special by-laws. Most of these villages have opted for group farming and are carrying on their agricultural operations to a production plan which they themselves have drawn up. The experience of these pioneering villages will be a great help for the other villages.

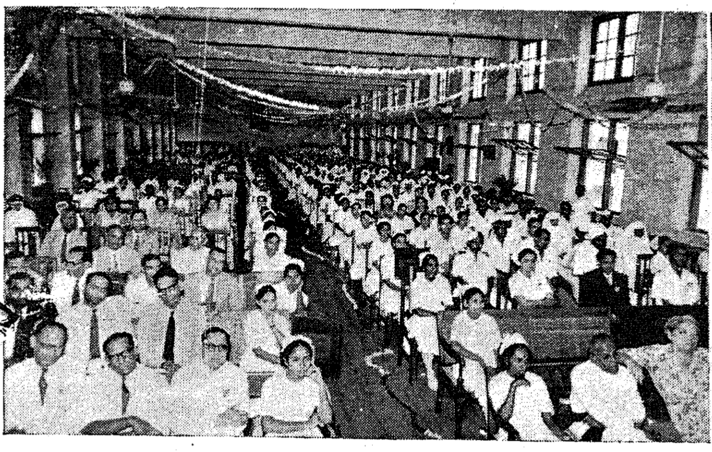
There is a mistaken notion that the Gramdan villages are given too much help by the Government. The Government is not doing anything out of the way for these villages. They are being helped as any other co-operative farming society. Special Acts and orders are passed since the Government have come to appreciate the potentialities in this Movement. The Community Development Ministry and the Bhoodan Yagna represented by the Akhil Bharat Sarva Seva Sangha are working in close co-operation.

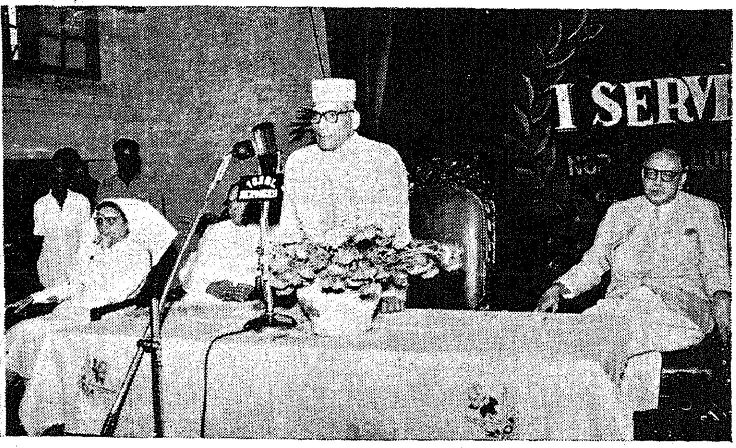
Vinobaji is trekking the land to popularise the idea and persuade the people to accept the new values and way of life. He has covered already 30,000 miles. Once a year the Bhoodan Workers numbering more than ten thousand meet him in a Mela which he calls Sneha Sammelan. The purpose of this gathering is to compare notes, assess the movement and make plans for the coming year. This year's Mela was held in Ajmere in Rajasthan. The Movement is slowly but steadily gaining strength in our State. On the surface it looks as though there is a lull since 1957. But, those who are within know it is otherwise. This is a period of consolidation and concentration. When some solid work in some of these villages are done the movement is once again bound to proceed with greater vigour.

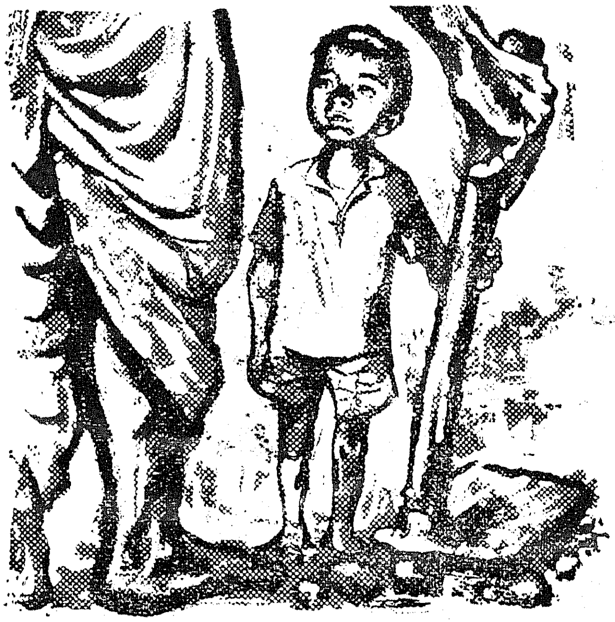
NURSES CLUB DAY



Sri. M. A. Manickavelu, Minister for Land Revenue and Public Health, presided over the Nurses Club Day at the General Hospital and Distributed prizes and medals to the nurses.







when tomorrow comes...

For him a spade is not yet a spade.
The telegraph wires hum a strange tune, the
distant drone of a plane means faraway places, mystery.
And imitating father is a new kind of play.

When tomorrow comes, play will turn to work.
Life will take on a different purpose. A spade
will be a spade, and care will be part of living.

Today's striving and effort is for the world
he will grow into, a world that offers a little more—
a little less of the care, a little more of the joy.

Today, as in the past, our products help to make homes cleaner, healthier, happier. But today we are also working for . . . **Tomorrow,** when the evergrowing urge for better living will demand still greater efforts. And we shall be ready with wider service, new ideas, new products . . .

Today and Tomorrow... Hindustan Lever serves the home.

PR.3-X52

High-Speed Demonstration in Tamil Typing

A High-Speed Demonstration in Tamil Typewriting by the trainees of the Government Typewriting Institute was held at Rajaji hall at 5 p.m. on 7th September 1959. The Hon. Sri C. Subramaniam, Finance Minister, presided over the function. Some of the Members of both the Houses of the Legislature and the Chairman and Members of the Official Language Committee attended the function.

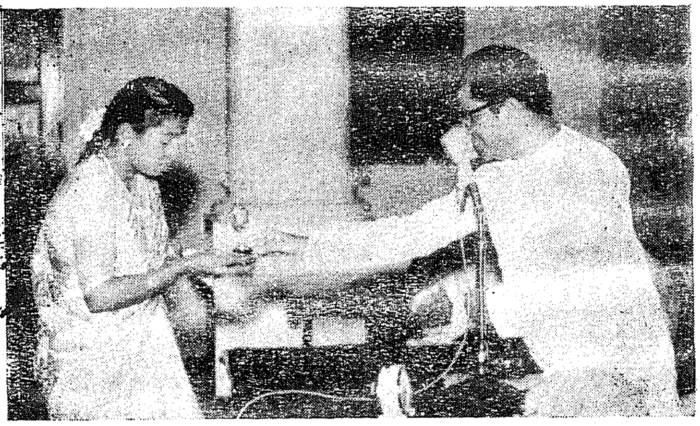
Thirty-two Government Typists including eight Lady Typists participated in the Demonstration. Mr. G. Bhaktavatsalam, Typist, Collector's Office, Tiruchirappalli, who recorded a speed of 74.7 words per minute with 2½ per cent mistakes, was awarded the first prize. Sri K. V. Narayanan, Typist, Office of the District Agricultural Officer, Madurai, who recorded a speed of 70.4 words per minute and N. S. Sudalaimuthu, Typist, District Veterinary Office, Tirunelveli, who recorded a speed of 66.6 words per minute, were awarded the second and third prizes respectively. Kumari N. Alamelu, Typist, Office of the Special Deputy Tahsildar, Devakottai, who recorded a speed of 65.8 words, was the first among the lady typists.

Sri S. Venkateswaran, I.C.S., Chairman of the Official Language Committee, welcoming the Minister, outlined the various steps taken by the Government for the introduction of Tamil as the Official Language in Government offices. For the successful implementation of the scheme, hundreds of Tamil typists were required and the Institute was giving training in Tamil Typewriting to Government Typists drawn from the various departments at the rate of 200 per training course. After a great deal of experimentation and practical tests, a standardised keyboard for Tamil Typewriters had been evolved by the Committee and it has been demonstrated that it is possible to attain a maximum speed of about 75 words per minute in the new keyboard within four months.

Mr. Justice M. Ananthanarayanan, I.C.S., congratulated the excellent progress made by the institute and said that the transaction of Government business should be conducted in such a way as could be easily understood by the common man.

Sri V. K. Ramasami Mudaliar, Leader of the Opposition, paid a tribute to the Official Language Committee for taking all the steps necessary for the progressive implementation of Tamil as the Official Language. He was glad that the institute had been doing a very useful work of training hundreds of Tamil typists required for Government administration.

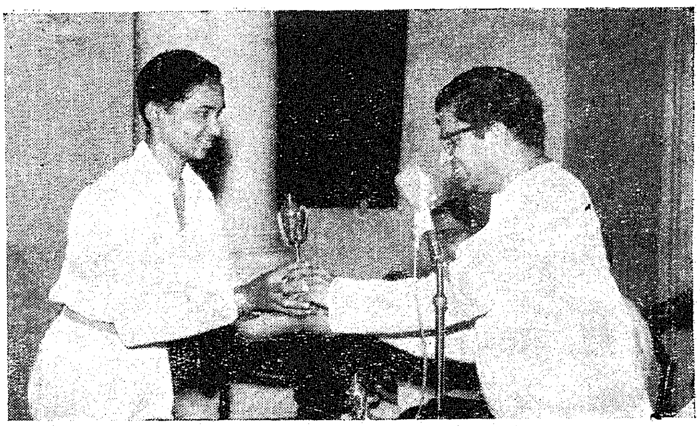
Dr. A. Chidambaranathan, M.L.C., said that Tamil Shorthand should also be taught to the trainees as there would be need for Tamil Stenos in future.



Sri K. Sattanatha Karayalar, M.L.A., and Sri E. M. Subramania Pillai also spoke.

The Hon. Sri C. Subramaniam, Finance Minister, commended the very satisfactory progress made by the trainees within a short period of four months in Tamil typing and congratulated those who participated in the contest. He said that he was glad that both the male and female trainees of the present batch had appreciably excelled the record of the previous batch in the matter of speed. It was really an achievement that a speed of about 75 words per minute had been recorded within a very short period and this record of speed in his opinion indicated the rapid growth of Tamil language itself. The Government were making arrangements for the purchase of more Tamil Typewriters and erelong he hoped that all the offices where Tamil was introduced as the Official Language would be provided with Tamil Typewriters.

Sri S. Ganesa Pillai, Secretary, Official Language Committee, proposed a vote of thanks.



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Harijan Welfare in the State

Sri A. GOPALA PADAYATCHI,
Personal Assistant to the Director of Harijan Welfare.

During the Second Five-Year Plan, a sum of Rupees 434.26 lakhs is to be spent for the benefit of Harijans.

During the First Five-Year Plan, 84,500 Harijans were given concessions to pursue their studies in High Schools, Arts Colleges and Technical Institutions. Besides these, hostels for Harijan students are also conducted by the Government. During 1957–58, 23 such hostels for girls and 35 hostels for boys were being conducted at a cost of Rs. 4,96,500 and 3,327 students were lodging in these hostels. During 1958–59, 27 hostels for girls and 63 for boys were run and Rupees 7,65,000 are allotted towards this.

Apart from these, 211 hostels run by private bodies were also given grants. Twelve thousand and six hundred students residing in such hostels received grants.

At present about 843 schools are run by the State Harijan Welfare Department. Seventy-two thousand seven hundred and forty-five students are studying in these schools. During the last two years Rs. 3.79.000 were spent for midday meals. During 1958-59, Rs. 52,100 were spent for the construction of new schools and repairs. A sum of Rs. 7,87,800 was allotted for educational concessions to Harijans for the year 1958–59.

Housing.—Till the end of 1956–57, nearly 150,000 house-sites were allotted to Harijans. Rs. 5,80,00,000 were spent towards this. During 1957–58, Rs. 4,40,100 were allotted for this purpose. Further, in the Second Plan, an amount of Rs. 90,45,000 has been allotted for the construction of 16,240 houses. During the year 1958–59, Rs. 18,00,000 were allotted for construction of 3,255 houses. The value of each house is Rs. 750. Of this amount, the Government gives Rs. 550 as grant. The rest has to be met by the Harijans. This amount can also be got as loan from the Government and this loan is repayable in 80 monthly instalments.

Sanitation.—A sum of Rs. 15,00,000 has been allotted for sinking 500 wells for Harijans. During the year 1958-59, 50 wells were sunk at an expenditure of Rs. 1,50,000. Apart from these, amounts have also been allotted for the construction of drainage, lavatories, bath-rooms, etc.

Agriculture.—Most of the Harijans in this State depend on agriculture for their daily bread. The Government is giving them grants to purchase seeds, to sink wells, etc. Plough animals are also distributed free by the Harijan Welfare Department. During 1957–58, Rs. 16,19,775 were granted. A sum of Rs. 17.10 lakhs has been allotted for the year 1958-59.

Cottage industries.—In order to enable the Harijans to add to their income by engaging in some cottage industry during spare time, they are given facilities to start cottage industries like bangle making, leather goods manufacturing, poultry keeping, etc. During the year 1958–59, 10 industrial training centres were started. Every year Rs. 3.70 lakhs are spent on these.

Removal of untouchability.—Steps have been taken to remove the feeling of untouchability from the people through legislative measures. Anybody who practices untouchability can be punished with a fine not exceeding Rs. 500 and, or, imprisonment for not more than six months. The Government is also making propaganda for the removal of untouchability. 'Harijan Day' is observed throughout the State every year. Those who have worked for the removal of untouchability are awarded Gold Medals in recognition of their services. A sum of Rs. 26,000 has been allotted for this in the Second Plan.

Bharathi Vizha was celebrated at Ethiraj College. Photo shows the prize winners with Sri R. Venkataraman, who presided, Sri V. L. Ethiraj and others.

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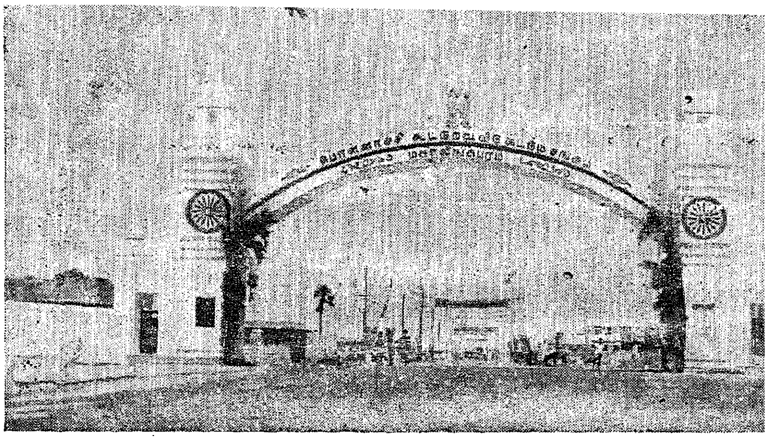
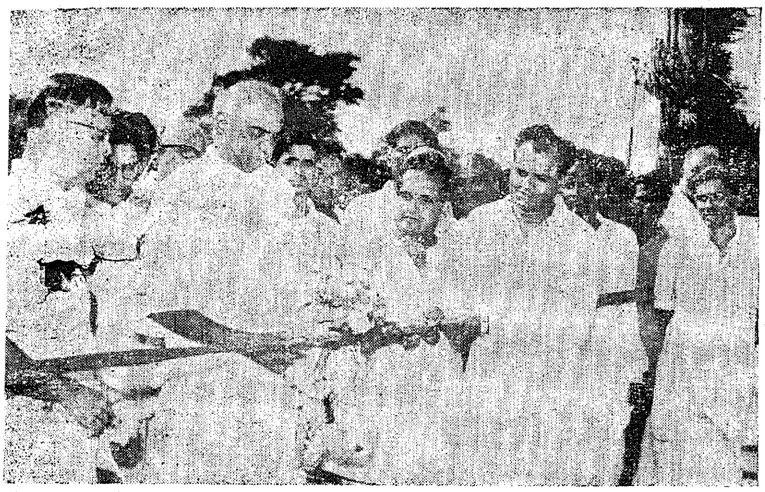
The Mahalingapuram Housing Colony

The M-h-lingapuram Housing Colony at Pollachi -clared open by Sri K. Kamaraj, Chief Minister, ... tember 1959.

There are 207 housing sites in this colony of 44 acres. These 44 acres cost Rs. 1,43,280. Construction of houses





in 141 sites was started in the beginning. An amount of Rs. 5,72,000 under the State Housing Scheme and another sum of Rs. 4,24,800 under the Low-Income Group Housing Scheme were given as loan. So far 100 houses have been completed and of these 64 are ready for occupation by members.

Work on the construction of roads and bridges has also been completed. The roads also have been provided with electric lights. Arrangements are being made for the construction of a reservoir for storage and supply of water to this colony. Work on the further construction of houses is going on in full swing.

Police Centenary Scholarship Scheme—Governor's Appeal

Sri Bishnuram Medhi, Governor of Madras, has issued the following appeal in connection with the institution of Scholarships for the Constabulary's children on the occasion of the celebration of the Centenary of Madras State Police :—

"The Madras Police was the first to be regularly organized in India in 1859 and we are celebrating its Centenary this year during the fortnight from 23rd August to 6th September 1959.

"In connection with the celebration there is a proposal for instituting scholarships for the children of non-gazetted Police Officers who intend to prosecute their studies beyond the S.S.L.C.|Matric stage. In spite of the meagre incomes of this category of Police Officers there is a very sincere desire that their children should graduate so that they would be better equipped for the battle of life. It has always been felt that in deserving cases help should be given to them by way of scholarships. As a matter of fact, from the Police Benevolent Fund, which is a fund made up of contributions by Police Officers, scholarships have been given but the number had to be extremely limited in view of the paucity of funds. Voluntary donations are therefore solicited for the purpose on the occasion of the celebration of the Police Centenary.

"Those who spontaneously offer scholarships may write direct to the Secretary to the Government of Madras, Home Department, Madras-9. They may also indicate the name the scholarship should bear. The minimum donation is for a sum of Rs. 15,000 to Rs. 16,000, so that when this amount is invested by Government, it would yield an approximate interest of Rs. 600 per annum. This interest is the amount of the scholarship that will be given to students. These amounts which are donated, are also exempt from income-tax and the Commissioner of Income-tax has issued a certificate exempting donations made to the Centenary Scholarship Scheme from tax under the provisions of section 15-B of the Indian Income-tax Act, 1922, subject to the limits prescribed in the said section with effect from 29th January 1959.

"We should be proud of our Police Force who are the custodians of law and order, and I appeal to the charitable institutions, business houses, industrialists and well-to-do citizens of the State to contribute generously to this deserving cause".

Book Review

Shri D. V. Raman's two volumes*, STANDARD COSTING AND BUDGETARY CONTROL and TEXTILES COSTING, ORGANIZATION AND COST CONTROL are welcome additions to the literature on costing. From Indian sources there are very few books on costing and these two volumes are sure to satisfy the long-felt want of the Indian students of costing and management. Shri Raman has brought to bear his rich experience in the managerial line in writing this treatise on Cost Accountancy.

The detailed review of conditions obtaining in Textile Industry in foreign countries and that exhaustive survey of the spinning and weaving set up in volume 2, are bound to interest the Industrialists and the students of costing and management.

A.V.J.

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* Published by Cri D. V. Raman, Vignan Mandir, Sermadevi P.O., Tirunelveli district.

Vacancies in the State Transport

A number of vacancies for experienced drivers with Heavy Transport Driving Licence, exist in the State Transport Service in Madras City. All ex-servicemen and others who possess the undermentioned qualifications are advised to contact *immediately* the Employment Office of their area and get their names registered for consideration for appointment in the State Transport in Madras City:—

(1) Literate in Tamil.
(2) Below 35 years of age.
(3) Height 5 feet 3 inches.
(4) Should have a heavy endorsement for not less than three years.
(5) Should have First Aid Certificate and Badge.

Pay inclusive of all allowances will be about Rs. 110 per mensem.

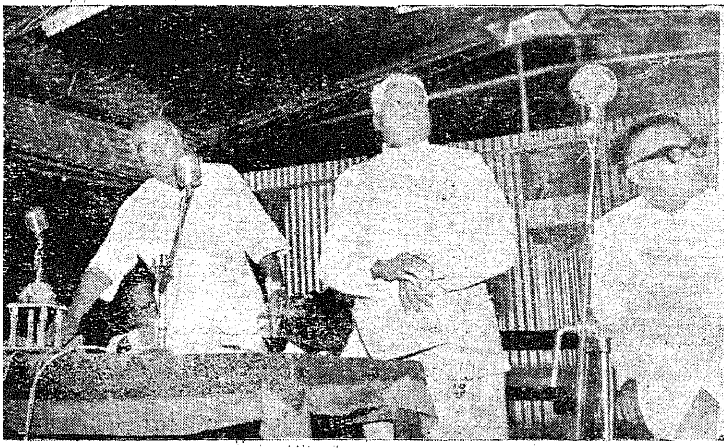
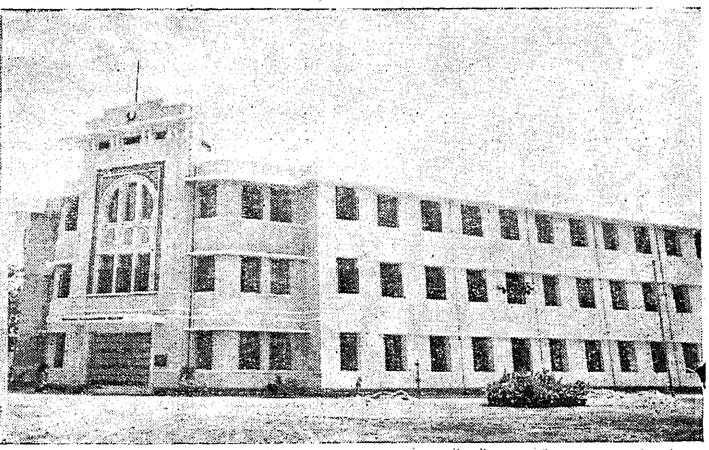
Issued by the Secretary, Madras State Soldiers', Sailors' and Airmen's Board, Madras-6.

Opening of Rice Mills—New Procedure

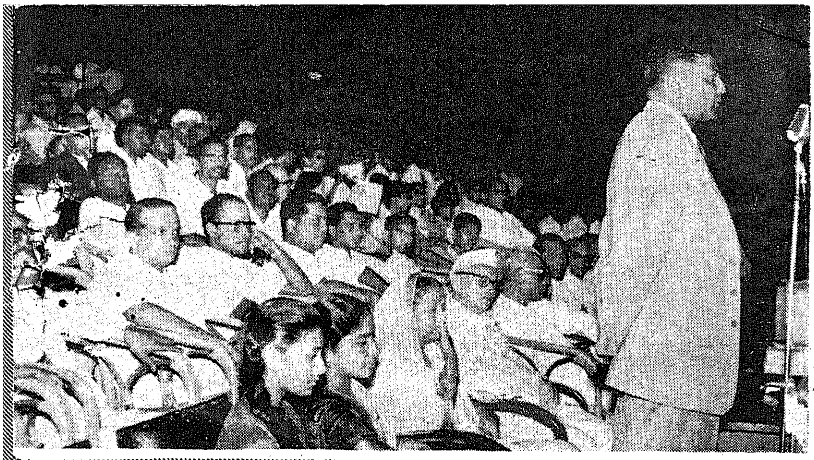
The Rice Milling Industry (Regulation) Act, 1958 (Central Act 21 of 1958), which has already come into force all over India with effect from the 22nd April 1959, will hereafter regulate the licensing of rice mills. The Madras Rice Mills Licensing Order, 1955, stands repealed with effect from that date. The new Act and the Rules framed thereunder, viz., the Rice Milling Industry (Regulation and Licensing) Rules, 1959, have been published in the *Fort St. George Gazette,* dated the 18th June 1958 and the 3rd June 1959, respectively.

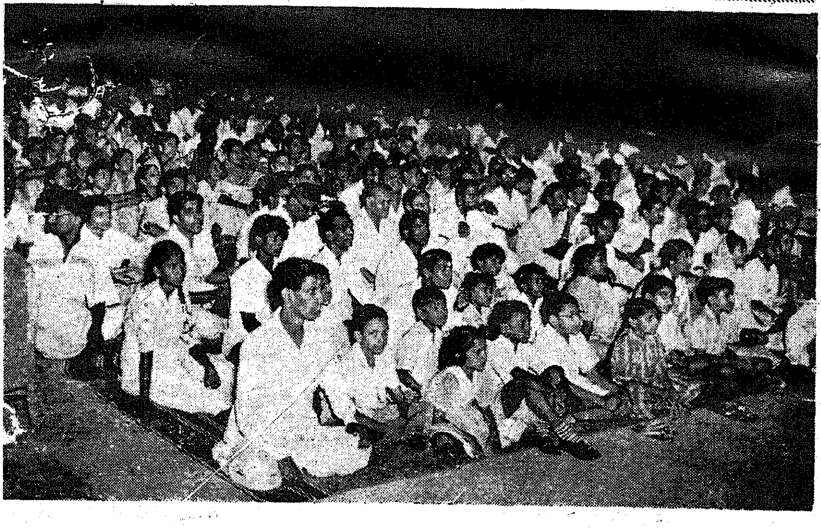
Under the provisions of the repealed Madras Rice Mills Licensing Order, persons intending to start rice mills had first to construct the building, instal the machinery and then apply to the District Collector for licence. Under the provisions of the new Act persons intending to start a rice mill have to apply and get a permit from the State Government first before putting up the rice mill building or making any investment therefor. Only after securing the permit, they can establish the rice mill and then they should apply for and obtain a licence from the District Collectors who have been appointed as Licensing Officers under the Central Act. This procedure will also apply to those who intend to re-commence milling operations in defunct rice mills.

Applications for permits for starting a new rice mill or re-commencing milling operations in a defunct rice mill should be made in the form prescribed under the Rice Milling Industry (Regulation and Licensing) Rules, 1959, to the District Collectors who will forward these applications through the Board of Revenue (Civil Supplies) to the Government with the recommendations regarding the issue of permit under the provisions of the Rice Milling Industry (Regulation) Act, 1958, and the rules framed thereunder. On the strength of the permit issued by the Government, the Collectors will take action, on application, to issue the licence provided the prescribed conditions are satisfied.

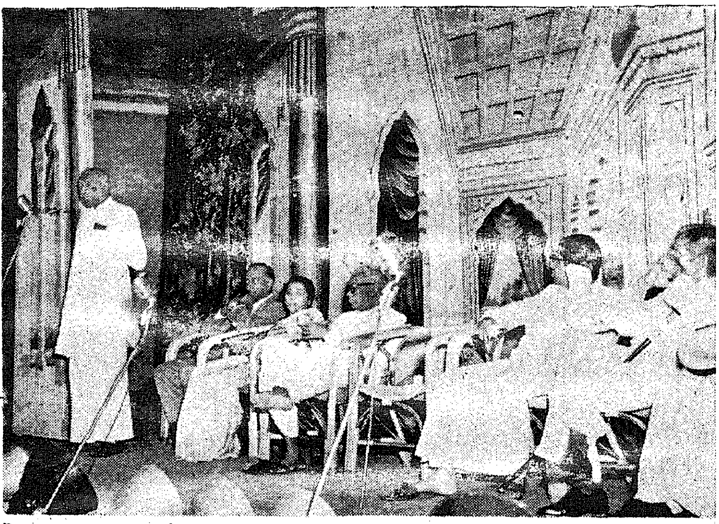
The Animal Husbandry Block of the Veterinary College was declared open by the Chief Minister. Photo on right shows the new Block.

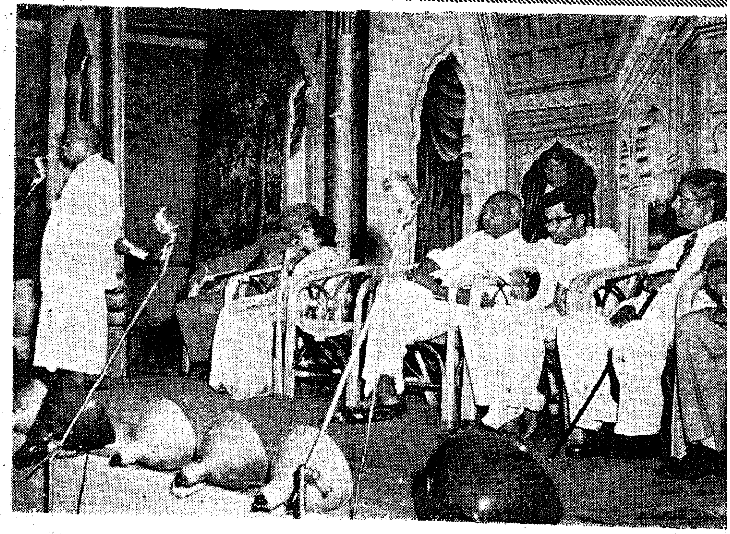




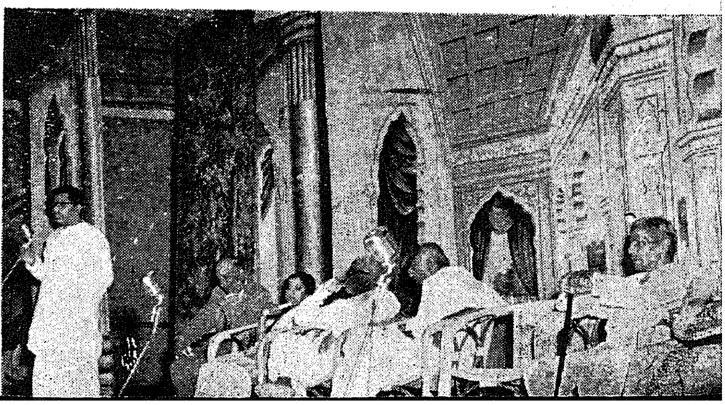
A tattoo was also held with great success. A cheque for the Scholarship of Policemen's children was presented by the Minister for Home to the Inspector-General of Police.

A drama was staged by Cine Actors towards the end of the celebrations and on the last day.





A public meeting was held when the Chief Minister, Home Minister, Finance Minister and others paid tribute to the Policemen of this State.



Registered No. M.-4767

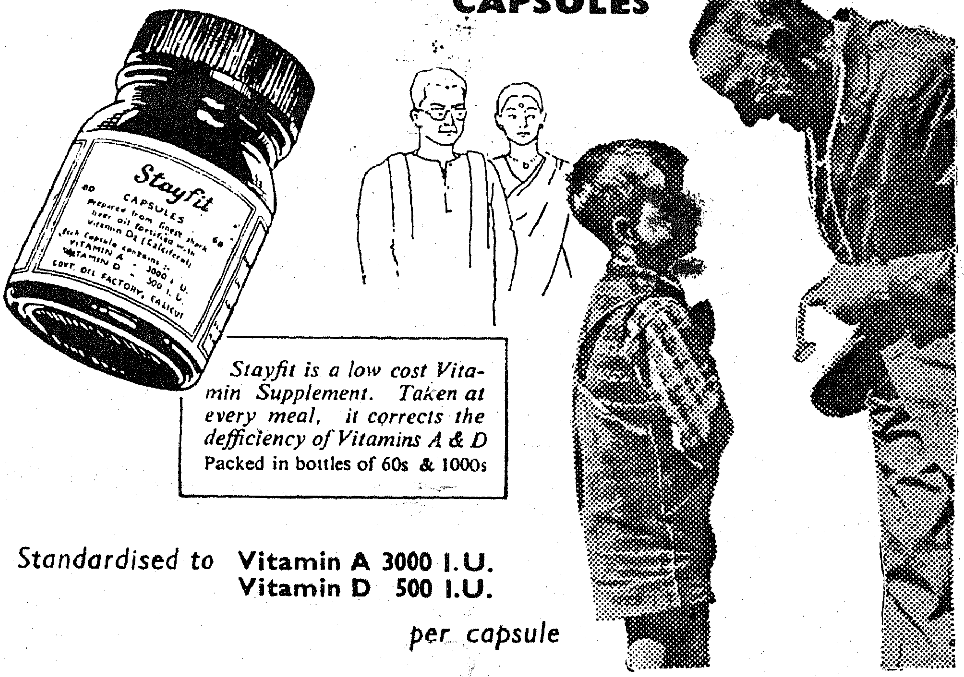
"He is allright! but..."

These kind words-

a solace to the anxious parents
and a cheer to the dejected boy-
only a Doctor could tell his patient
with confidence. But
his advice to put the boy on Stayfit
is serious enough, as he lacks
in Vitamins A & D.

Stayfit

CAPSULES



Stayfit is a low cost Vitamin Supplement. Taken at every meal, it corrects the defficiency of Vitamins A & D
Packed in bottles of 60s & 1000s

Standardised to **Vitamin A 3000 I.U.**
Vitamin D 500 I.U.
per capsule

GOVERNMENT OIL FACTORY, CALICUT
(A Kerala Government Concern)

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